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USSR Report

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USSR REPORT

Economic Affairs

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REGIONAL DEVELOPMENT

ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

FUNCTION OF NEW ECONOMIC MANAGEMENT MECHANISM EVALUATED

Moscow EKONOMICHESKAYA GAZETA in Russian No 33, Aug 85 pp 9-10

[Article by A. Milyukov, doctor of economic sciences: "New Methods of Management--Inaction"]

[Text] During the last 2 years in our country a large amount of work has been done to improve the economic mechanism. Large-scale economic experiments have been conducted (and many of them are continuing) in various areas of economic management: expansion of the rights of production associations (enterprises) of industry in planning and economic activity and increasing their responsibility for the results of their work; improving the organization and payments of the labor of workers in design and technological services; enlisting workers and employees to work in public production with combined jobs in Chelyabinsk Oblast; the experiment in consumer services, and a whole number of others. This has made it possible to apply in the national economy new methods of management which have been tested in practice.

At the April (1985) Plenum of the CPSU Central Committee, M. S. Gorbachev emphasized: "We have reached a point where it is necessary to move from this experiment to the creation of an integrated system of management and control."

On 12 July of this year the CPSU Central Committee and the USSR Council of Ministers adopted the decree, "On Extensive Dissemination of New Methods of Management and Increasing Their Influence on the Acceleration of Scientific and Technical Progress."

What the Experiment Showed

A central place in all the work for improving the economic mechanism is occupied by the economic experiment in industry. Generalization of the experience from the activity of the enterprises under the conditions of the economic experiment during 1984 and the first half of 1985 provide grounds for drawing a number of conclusions. The overall conclusion is that the new conditions have exerted a positive influence on the results of the economic activity of the enterprises, having contributed to improving economic work and, which is important, have been an effective stimulus for expanding the participation of the workers in the management of production and in the resolution of the problems of the economic life of the collectives.

The increased interest of the labor collectives in the results of their activity has been reflected in the improvement of the indicators which characterized the final results of the work of the labor collectives.

First and foremost they achieved a higher degree of fulfillment of the assignments for product sales taking into account the commitments under economic agreements. These results are exceptionally important. If they are achieved in all of industry it is possible to essentially improve the balance of the national economy and to arrange for continuous material and technical supply. The fulfillment of agreements means arranging an efficient rhythm of work throughout production and, on the basis of this, essentially improving labor organization and increasing its productivity.

How was the improvement in this important area of management achieved? The influence of several factors can be seen here. First of all they introduced appreciable stimuli which motivate the enterprises to deliver products promptly, in keeping with the agreements. With complete fulfillment of agreements under contracts the material incentive fund increases by 15 percent.

The material responsibility for the failure to fulfill agreements was also increased. It was stipulated that if an enterprise does not fulfill deliveries under agreements, for each percentage point of underfulfillment of the plan the material incentive fund is reduced by 3 percent.

The fulfillment of deliveries under contract improved also because of the large amount of organizational work that had been done at the enterprises. Practically all of the labor collectives rearranged their intraproduction cost accounting [khozraschet] and increased the responsibility of the production units for the final result of their labor--the delivery of products under agreements. For brigades, sections and shops appreciable material incentives were introduced. It became the rule that the amount of the bonuses of the brigades depends on the complete delivery of sets of items and semimanufactured products for final assembly. The organization of socialist competition improved in the labor collectives. Its conditions included the fulfillment of economic agreements.

The new economic mechanism has strengthened the incentive to increase labor productivity. The enterprises now "earn" the increase in the wage fund strictly according to the established normatives. Every collective knows that the amount of his wage fund depends not on the wishes of the higher organization and not on the convincingness of the arguments that are given when developing the plan, but on the results of his own work. The main thing that is necessary is to provide for an increase in the output of products, and for each percentage point of this increase the base wage fund increases according to a stable normative. When the number of workers is reduced within the framework of the wage fund the average earnings increase. Thus the stimuli are very simple, effective and comprehensible to everyone.

Under the conditions of the economic experiment the financial results of the operation of the enterprises have improved and above-normative supplies have

decreased. The following elements of the economic mechanism exert an active influence here.

First, the indicator of the reduction of production costs is the fund-forming indicator. The material incentive fund is increased by 5 percent for each percentage point of reduction of the production cost. This norm is the same for all enterprises, it is stable and, obviously, it stays in effect for subsequent years.

Second, the changeover to normative distribution of profit within the planned year exerts a certain influence. This motivates the enterprises and associations, during the course of the fulfillment of the annual plan, to provide for better utilization of their existing production potential.

Third, the payment from profit taken for above-normative supplies, which is increased by three percent, is also significant. Beginning in 1985 this payment will be made into the state budget.

Under the conditions of the experiment labor collectives that were operating well received more extensive opportunities for material encouragement of their workers and for solving social problems. The economic experiment has thus shown its viability and revealed great reserves for increasing the effectiveness of production, improving product quality and improving the results of the work of the labor collectives.

At the same time the experience in working under the conditions of the economic experiment demonstrated a need for further improvement of the forms and methods of management. First and foremost the economic mechanism still does not properly influence the acceleration of scientific and technical progress or the increase in the production of high-quality products that correspond to modern scientific and technical achievements. Taking into account the experience that was accumulated areas were also revealed for improving the policy for the utilization of the fund for the development of production, the fund for sociocultural measures and housing construction, and also the system of incentives for the workers.

Expansion of the sphere of the application of forms and methods of management which have justified themselves is inseparably linked to further development and deepening of the economic mechanism. This is expressed, first, in fuller accounting for the branch peculiarities of production; second, in the development on the basis of accumulated experience of individual elements of the system of management; third, the increased influence of the economic mechanism on the process of intensification and acceleration of scientific and technical progress; fourth, the utilization of new and more effective forms of planning, economic levers and stimuli for improving the final results of the activity of the collective.

The decree of the CPSU Central Committee and the USSR Council of Ministers, "On Extensive Dissemination of New Methods of Management and Their Increased Influence on Acceleration of Scientific and Technical Progress," reflects practically all of these issues. But special reliance is placed on

strengthening the influence of the economic mechanism on the acceleration of scientific and technical progress.

This decree has earmarked the directions for improving the economic mechanism in keeping with the decisions of the April and July (1985) plenums of the CPSU Central Committee, and the points presented at the conference of the CPSU Central Committee regarding questions of accelerating scientific and technical progress.

Further improvement of new methods of management is directed toward actively utilizing the possibilities of planning, stimulation, price setting and other economic levers in order to create true motivation on the part of the labor collectives of the associations and enterprises and all units of the national economy to accelerate scientific and technical progress and improve product quality. The enterprises are being given considerably greater opportunities to utilize the funds for the development of production and sociocultural measures and housing construction.

The new conditions for management are being extended first of all to all enterprises of branches where they have undergone experimental testing. Thus the new conditions for management in 1986 will encompass all machine-building ministries.

Production associations and enterprises of those ministries in which these conditions were not applied previously will be changed over to which these conditions were not applied previously will be changed over to them. For example, the chemical and shipbuilding industries. In these branches it will be necessary to work out provisions of the previously conducted experiment with respect to their specific conditions, to create a methodological base and to develop preparatory activity in the labor collectives. Here is a broad field of activity for economic managers, specialists and scientists.

And, finally, only certain enterprises and organizations of a number of branches will be changed over to the new methods of management, for example, the petroleum processing and petrochemical industry, and the coal industry.

Certification of Products

Objective evaluation of product quality and their certification are becoming more important in controlling scientific and technical progress. Products are now certified only with respect to two quality categories--highest and first, which increases the demands placed on the manufacturers.

The level of scientific and technical progress is evaluated, first, by the correspondence of the products produced to the best world achievement; second, by the final indicators which characterize the application of the latest achievements of science and technology (for example, reduction of the metal-intensiveness of the items, the changeover to progressive technologies for manufacturing them). Third, one takes into account the assimilation and changeover to mass production of new, highly effective items, and also,

fourth, the fulfillment of the largest measures for the introduction of new technical equipment and the preparation for its production.

The most significant thing in the evaluation of the technical level of production is the correspondence of the products that are produced to the best world achievements. On the basis of certification we have revised the economic levers and stimuli that were in effect to motivate the production of such items.

A good deal will have to be done in order to raise the work for certification to the proper level, to improve its organization, to increase the responsibility of certification commissions, ministries and departments and the USSR Gosstandart for the reliability and objectivity of certification, and to improve its information support.

The decree emphasizes that indicators of the acceleration of scientific and technical progress should actually become an organic part of all sections of the state plan, its basis. When developing plans it is necessary to provide for a changeover to principally new technical equipment and technological systems in order to achieve the greatest effectiveness of production and to reequip all branches of the national economy. Changes are being made in order to improve the quality and timeliness of the development of the plan and to take into account more fully in its indicators the work of the enterprises for the creation and assimilation of new technical equipment in practice.

Price Levers

An objective evaluation of the quality and technical level of the items serves as a basis for differentiating wholesale prices and applying increments and rebates to them. Increments to wholesale prices (up to 30 percent) for products of the highest quality category should be established with greater demands and better substantiation. A decision has been made that the increment is retained if the product is again in the highest quality category during the subsequent certification.

Rebates to prices could also have been established before, but they were used extremely rarely. The enterprises, with the support of the ministries and departments, found numerous arguments against establishing them. Now they are introduced under a mandatory policy. Thus the economic responsibility for product quality is increased. Economic sanctions are applied against enterprises in cases where they produce products of the first quality category for a long period of time and do not reach higher levels of scientific and technical progress.

It has been stipulated that for products for production and technical purposes that are included in the first quality category during certification, a rebate is applied from the wholesale price during the first year in the amount of 5 percent, the second year--10 percent and the third year--15 percent.

If in the second certification the products are not included in the highest quality category they should be removed from production. With the permission

of the USSR Gosplan and the USSR Gossnab their output can be continued for up to 2 years, but then the rebate is increased and amounts to 30 percent.

Rebates from wholesale prices do more than just reduce the incomes of the enterprises that manufacture the products. Funds in an amount of up to 70 percent of the sum of the rebates are reimbursed from the material incentive fund. The limit of this reduction has been determined: the material incentive fund is reduced by no more than 20 percent of the planned amount.

Thus a system of economic sanctions is introduced which is characterized by a number of new indicators: first, the irreversibility of the economic responsibility; second, the increase in this responsibility with extended production of obsolete products; third, the need to remove such products from production after a strictly determined period of time; fourth, an essential increase in material responsibility of the collectives for the output of products that do not meet modern requirements.

On the basis of this there is greater differentiation in wages, depending on the technical level of production. The differentiation of the amounts of incentives for labor collectives in terms of the indicator of production of products for export also increases. Certain measures in this area were taken earlier. Thus the amounts of currency deductions left at the disposal of the enterprises were increased; and the delivery of items for export was placed on a level with the output of products of the highest quality categories on determining the proportion of these products in the overall production volume.

But these measures turned out to be inadequate. Of course it is necessary to encourage not products for export in general, but those deliveries which are effective for the country and produce a certain income. Now a decision has been made that when delivering machines, equipment, instruments and spare parts for them (with an effectiveness of export of more than one) using freely convertible currency, there are additional increments to the wholesale prices in amounts of up to 20 percent.

Thus items which are certified in the highest quality category and are exported with high effectiveness can have a total increment to the price of up to 50 percent. This is an essential factor in the differentiation of wholesale prices and incomes of the enterprises, which should motivate them to change over promptly to the production of high-quality products.

Responsibility for Contractual Commitments

The economic mechanism also includes new methods which increase the responsibility of the enterprises for the quality and promptness of the delivery of items to the consumers. First, the enterprises have more responsibility for providing complete deliveries of machine-building products. This problem is exceptionally important and its solution makes it possible to provide for prompt batching of equipment and delivery of it to the clients, to

reduce expenditures on installation at construction sites, and to accelerate the startup of projects under construction.

A system of incentives has been introduced to ensure completeness of deliveries: the client pays the supplier an increment to the wholesale prices in an amount of 5 percent of the cost of the batched equipment. The head supplier can distribute these funds among the other suppliers in proportion to the value of the batching products they deliver. The enterprises have been given the right to use the money they receive the same as they do increments to the wholesale price for effectiveness and product quality.

Measures of economic responsibility are also being introduced. The amount of the penalty for failing to meet deliveries is determined in percentages of the value of all of the batched equipment, sets of equipment or technological line, and not the value of the component or part that was not delivered, as is currently the case. Essentially we are speaking about having the guilty enterprise compensate to some degree for the losses caused by the failure to make the deliveries. The limits of this responsibility have also been determined: the fine amounts to 5 percent of the value of the batching equipment, but no more than 20 percent of the planned profit of the enterprises that have failed to meet the delivery deadlines.

The economic responsibility of the enterprises for the quality of the items is also increasing. A decision has been made to link losses from the output of poor-quality products directly to the amounts of the incentive funds. In particular, expenditures for correcting defects discovered by the client in the products that are delivered are reimbursed through a reduction of the material incentive of the supplier enterprises. And if the products are returned because of their poor quality, the deductions into the material incentive fund are reduced up to 5 percent for each percentage of returned poor-quality products in the overall volume of the production of products. Expenditures for correcting defects and sanctions for poor-quality products cannot exceed 20 percent of the amount of the planned material incentive fund.

Fund for the Development of Production

Along with the increased responsibility of the enterprises and associations for the results of economic activity, the decree envisions measures which create real possibilities for the labor collective to carry out continuous technical improvement of production and update the products that are produced. Special significance here is attached to the utilization of the internal funds of the enterprise and bank credit. It has been established that the fund for the development of production of production associations and enterprises is formed according to normatives that are stable for the 5-year period, depending on the level of the utilization of fixed production capital and the results of economic activity. The money in this fund can be accumulated to implement the necessary measures in subsequent periods and the bank pays interest for using this money.

The managers of production associations and enterprises, with the agreement of the labor collectives, have been given the right to use the money from the fund for development in order to finance expenditures for technical

reequipment and reconstruction of existing productions and enterprises and also for expenditures for preparing for the output of new technical equipment and introducing progressive technological processes. These funds can also be used for conducting measures to eliminate bottlenecks in the basic and auxiliary productions, to expand the output of consumer goods, to improve product quality, to increase labor productivity and to reduce production costs. Managers of associations have been given the right to redistribute the money from the fund for the development of production and the unified fund for the development of science and technology which is placed at their disposal among the aforementioned funds.

The associations and enterprises when developing plans for technical reequipment must include in them first measurew which provide for acceleration of the rates of replacement of outdated production capital and work conducted within reduced time periods.

The USSR Gosplan, the councils of ministers of the union republics, and the construction ministries and departments who are clients must now, when developig plans for capital construction, provide for preferential inclusion in them of work for technical reequipment and reconstruction of existing enterprises.

Material and technical support for the measures necessary for this is also improving. The development of plans for material and technical supply by the USSR Gosplan, the USSR Gossnab, the USSR ministries and departments and the councils of ministers of the union republics should begin with an initial revision and full support for the needs for material resources for work on technical reequipment and reconstruction using enterprise funds and bank credit.

Beginning in 1987 work done by the internal method using funds for the development of production and bank credit will be provided with material and technical resources directly by the territorial agencies of the USSR Gossnab on orders from the production associations and enterprises.

News in Material Incentives

Taking into account the results of the economic experiment, a need has arisen also to take additional measures to improve the utilization of money from the economic incentive fund that is earned by the collective. This pertains primarily through funds for material incentives and bonuses for workers.

It has been recognized as expedient, beginning in 1986-1987, to form a unified fund for material incentives. This fund will include money deducted under the established policy into the material incentive fund and also other money intended for awarding bonuses in keeping with existing legislation (except for bonuses paid from the wage fund, bonuses from the results of the all-union socialist competition, and bonuses paid personally to specific workers as a one-time act).

In order to increase the incentives for high achievements in terms of the technical level and quality of the products that are produced, it has also

been necessary to introduce a number of changes in the bonuses for management workers. From the results of the work for the year the managers of enterprises can receive bonuses for the fulfillment of the delivery of products under agreements in an amount of up to two salaries. This factor in bonuses is independent and did not depend on any other indicators of their work. Another indicator for awarding bonuses to this category of workers is also being introduced. They are awarded bonuses for the fulfillment of established planning generalizing indicators of scientific and technical progress and concrete assignments for the development and introduction of new technical equipment in an amount of up to two salaries.

The decree also envisioned other measures directed toward making our economy maximally receptive to scientific and technical progress and making the labor collectives and all units of the national economy vitally interested in increasing the effectiveness and raising the technical level of production as well as improving product quality.

In order to prepare for the changeover to the new conditions of management, the ministries and departments must develop and inform the associations and enterprises of control figures, normatives and limits necessary for the drawing up of drafts of plans and also methodological and normative documents. The organizational and political work directed toward active introduction into practice of new forms and methods of management--it is noted in the decree that was adopted--it is one of the most important areas in the activity of party, Soviet, management, trade union and Komsomol organizations.

The introduction into practice of new methods of management that have been tested during the course of the economic experiment is an important step on the path to the creation of an integrated system of management of the national economy which provides an organic unity for improvement of planning, increased effectiveness of economic levers and stimuli, and improvement of the organizational structure of management.

11772
CSO: 1820/247

ECONOMIC POLICY, ORGANIZATION AND MANAGEMENT

TECHNICAL PROGRESS EXPECTED FROM IMPROVED MANAGEMENT

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 9, Sep 85 pp 3-6

[Article: "Intensification of the Influence of the Economic Mechanism on Accelerating Scientific-Technical Progress"]

[Text] It was noted in the CPSU Central Committee and USSR Council of Ministers (July 1985) decree "On Wide Dissemination of New Management Methods and Intensification of Their Influence on Accelerating Scientific-Technical Progress" that the economic experiment of widening the rights of industrial production associations (enterprises) in planning and economic activity and intensifying the responsibility for work results has demonstrated its vitality and the great possibilities for improving the work of labor collectives, for raising the output of the needed products and increasing production effectiveness.

An analysis of the experiment's course, local inspections and the materials of the ministries, associations and enterprises indicate that on the whole, the right course toward improving the economic mechanism has been taken. The role of labor collectives in developing the plans of economic and social development has risen, and their interest in raising production effectiveness has been intensified in the production associations and enterprises of five ministries--the Ministry of Heavy and Transport Machine Building, the Ministry of Electrical Equipment Industry, the Ukrainian SSR Ministry of Food Industry, the Belorussian SSR Ministry of Light Industry and the Lithuanian SSR Ministry of Local Industry--participating in the economic experiment since 1 January 1984. Discipline of product deliveries has grown stronger, and higher indicators have been attained in the use of labor and material resources. A number of associations and enterprises improved plant planning, production control and the bonus payment system. Positive results are also being achieved by associations (enterprises) of ministries converted to the new economic conditions as of 1985.

But at the same time the CPSU Central Committee and USSR Council of Ministers noted that measures to improve management embodied within the economic experiment are not being implemented effectively enough. This manifests itself chiefly in the fact that planning is not orienting the associations and enterprises on raising the technical level of production and on introducing new equipment and production processes. There are unsolved problems in

formation and use of the production development fund. The enterprises and associations have not been provided with wide independence in using the assets of this fund for reequipment, and the procedures of material support to measures being implemented have not been conclusively worked out.

A similar position also evolved with the use of the fund for social and cultural measures and housing construction. Material support by this fund, consisting of materials, equipment and funds for construction and installation, has not been organized yet. The fund's assets are often used for other purposes not associated with social, housing and personal construction.

The financial mechanism of influence upon production has not been fully tuned; the profit distribution standards are being approved only for the year. As a result many enterprises are trying to increase production reserves, and they are renewing equipment at the wrong times.

The work style and methods of the central administrations of the ministries and the all-union industrial associations are being changed too slowly. The enterprises are given a wide range of quotas and indicators not foreseen by the terms of the experiment. Rights granted in the area of economic independence are frequently not exercised.

The experiment showed that the new management methods being tested by it are an important step along the road to creating an integral system of the national economy's control. But at the same time its further development requires additional measures to improve all aspects of control.

The adopted decree foresees measures to deepen and develop the terms of the experiment, and to make wider use of new, effective management methods in the 12th Five-Year Plan. The influence of the economic mechanism on accelerating scientific-technical progress is being intensified on priority. Improvement of all methods of centralized management--planning, evaluation of economic activity, and the system of economic levers and stimuli--is subordinated to this task.

Raising the role of the state plan as a means of transition to fundamentally new equipment and production processes for the purposes of attaining the highest production effectiveness is the core of all of the work. Things have been planned in such a way that the indicators for acceleration of scientific-technical progress would become an inherent part of all plan subdivisions.

The USSR Gosplan was given the job of providing the ministries and councils of ministers of the union republics with production quotas stated in natural terms and funds for material and technical resources sooner than in former times. This will promote prompt preparation of production of new equipment and introduction of progressive procedures. The USSR Gosplan and the USSR Gossnab have pledged to allocate capital investments and material resources, chiefly for creation and development of new equipment, to the ministries and departments in their draft plans, while the latter will allocate these funds to subordinated enterprises.

Measures have been foreseen for developing khozraschet and raising the role of economic standards and levers in the planning and stimulation of the activities of labor collectives. Thus the role of prices in renewing products and in raising their technical level and quality has been reinforced. For this purpose an extra charge is to be attached to the wholesale price of articles certified in the top quality category. This extra charge is to be up to 30 percent of economic effectiveness, and it is to remain in effect as long as the product remains certified in the top quality category.

In order that production of obsolete and ineffective products could be made disadvantageous for enterprises, the decree foresees more-stringent procedures for applying wholesale price discounts. Beginning in 1986 a discount of 5 percent will be set right away upon certification of a product in the top category; this discount will then be increased 5 percent a year. If a product is not placed in the top quality category upon its second certification, it will have to be removed from production. This procedure applies not only to new products but also ones previously in production.

Up to 70 percent of the total discounts are compensated by the enterprises through their material incentive fund. But this fund cannot be reduced by more than 20 percent of its planned amount. This measure would have an influence on product renewal and on improvement of its quality beginning with the very first year of the new five-year plan.

A system of economic measures to intensify the influence of the economic mechanism upon expansion of product exports and improvement of deliveries of whole sets of equipment is being introduced. Beginning in 1986 additional incentive surcharges to wholesale prices of up to 20 percent will be employed in regard to deliveries of machinery, equipment, instruments and spare parts for them on the basis of freely convertible currency.

The rights and responsibility of enterprises for using deductions in foreign currency are being expanded. Use of these deductions for the following basic purposes is recommended: improving production, and improving the quality and raising the competitiveness of products; strengthening and developing the scientific-technical base of production, and rendering assistance to the therapeutic and preventive institutions of the enterprises; encouraging associated enterprises to develop and supply units and parts needed for production.

The possibilities of associations and enterprises for production reequipment are increasing. They are being granted the right to utilize assets from the development fund for reconstruction, for preparation of the production of new equipment, for introduction of progressive procedures and for compensation of higher outlays associated with manufacturing a new product in the period of its assimilation.

A system of measures guaranteeing labor collectives that the assets in their production development fund would be supported by the necessary limits of capital investments, material resources and equipment was developed with regard for proposals stated in the course of the economic experiment.

It was established in this case that plans for material-technical supply will be drafted by the USSR Gosplan, the USSR Gossnab, ministries, departments and other organizations that distribute material technical resources, beginning with the first examination. Reequipment efforts will be fully supported by assets from the production development fund. The question of supplying equipment and other material resources for new construction will be considered only after requests by enterprises for resources for these purposes are satisfied.

Beginning in 1987 material and technical resources (except for brand-name equipment and imported equipment) will be supplied in support of self-help projects at the expense of the production development fund, the fund for social and cultural measures and housing construction and bank loans, directly by way of territorial organs of the USSR Gossnab, on the basis of orders from production associations (enterprises) and in accordance with the planning documents. Through its territorial organs the USSR Gossnab must determine the demand for equipment and material resources in such projects, and it must submit these data to the USSR Gosplan by the established deadlines. Concurrently the procedure for filling out documents concerned with measures carried out at the expense of these assets will be simplified significantly.

Thus the draft plans for reequipment of enterprises, planning estimates and lists of measures to be paid for by assets from the production development fund and by loans are drawn up and approved independently by the production associations (enterprises) for a five-year period.

The procedure of financing projects carried out at the expense of the development fund has been simplified as well. It has been established that in order to finance reequipment by means of the resources of this fund, enterprises furnish institutions of the appropriate banks an excerpt from their approved reequipment plan for the planning year and approved estimates of individual jobs and outlays, and when they receive a loan, they also furnish calculations of the economic effectiveness of the intended measures. Enterprise executives are permitted to redistribute assets at their disposal in the production development fund and in the unified fund for development of science and technology.

A number of new provisions are being introduced in order to raise the material interest of labor collectives. In order that incentive resources could be concentrated on stimulating scientific-technical progress, it was deemed suitable to create, with regard for the accumulated experience, a unified material incentive fund in the associations and enterprises that contains all assets except those of the wage fund.

The role of the fund of social and cultural measures and housing construction in solving the problems of the social development of labor collectives is rising. It has been foreseen that as the necessary prerequisites are created, in the 12th Five-Year Plan this fund is to become one of the main sources of financing of the construction of residential buildings, children's institutions, clinics, Pioneer camps and other nonproductive facilities for existing

enterprises and organizations operating under the new economic conditions. Centralized sources of financing of construction of nonproductive facilities will be allocated as a rule in the plans of the ministries and departments only for new facilities and, where necessary, for expanding enterprises.

Considering the positive results of the work of associations and enterprises in 1984, the decree calls for a transition to the new management methods by a significant group of industrial ministries. Associations and enterprises of the sectors in which the experiment has already begun, in which experience has been accumulated and in which the appropriate methodological and standard documents and statutes have been drawn up, are to be the first to undergo transition to work in the new way. These include the machine building, ferrous metallurgy, light, food, fish and local industry sectors and, as of 1986, all personal services enterprises.

In addition sectors in which the experiment has not yet been carried out will begin working in accordance with the new system. These include associations and enterprises of the USSR Ministry of Nonferrous Metallury, the Ministry of Chemical Industry, the Ministry of Mineral Fertilizer Production, the Ministry of Medical Industry, the USSR State Committee for Publishing Houses, Printing Plants and the Book Trade and a number of other ministries, as well as individual production associations (enterprises) of the USSR Ministry of Coal Industry, the USSR Ministry of Petroleum Refining and Petrochemical Industry, the USSR Ministry of Timber, Pulp and Paper and Wood Processing Industry and the USSR Ministry of Meat and Dairy Industry. Beginning in 1986 transportation and communication enterprises will be converted to the new economic conditions for the first time. These include enterprises and organizations of the Ministry of Maritime Fleet, the USSR Ministry of Communications, the Kazakh SSR Ministry of Motor Transport, the RSFSR Ministry of the River Fleet, the Main Administration of Motor Transport of the Moscow City Executive Committee and individual enterprises and organizations of the Ministry of Railways and the RSFSR Ministry of Motor Transport. In 1986 about 50 percent of all industrial enterprises will be working in the new conditions. Conversion of all industry is to be completed in 1987.

Thus expansion of the rights and growth of the responsibility of enterprises for work results in the new five-year plan will become the basis for the management system in industry and in other sectors of material production. This will make it possible to raise the return from the existing potential, and to create favorable conditions for completing the tasks of the 12th Five-Year Plan.

Practical introduction of the new management methods, which had undergone testing in the course of the economic experiment, is an important stage along the path to creating an integrated system for control of the national economy insuring, in organic unity, improvement of planning, reinforcement of the effectiveness of economic levers and stimuli and improvement of the organizational structure of control.

11004
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INVESTMENT, PRICES, BUDGET AND FINANCE

PRICE STRUCTURE IMPACT ON TECHNICAL PROGRESS STRESSED

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 10, Oct 85 pp 13-20

[Article by A. Komin, doctor of economic sciences: "Technical Progress and Prices"]

[Text] The conference held at the CPSU Central Committee on questions of accelerating scientific-technical progress stressed the need for developing price formation so that it would facilitate the successful realization of the party's economic policy and the fastest possible introduction of all that is new and leading, and so that it would force economic managers to improve engineering and technology, strictly adhere to conditions of economy, and thriftily utilize resources.

For purposes of strengthening the economic interest of enterprises in assimilating new technology, a number of methodological directions have been adopted in the practice of price formation in recent years. The essence of these consists of expanding the economic methods of substantiating prices. Such factors as the technical-economic parameters and the quality of production, the economic effect, i.e., the consumer properties, are taking on ever greater importance in determining the levels of prices. This has made it possible to depart from the purely expenditure-oriented principle of establishing prices. Computations of economic effect from newly assimilated production, its function and end results are presently indicators just as mandatory as the calculation of production cost.

An analysis of practical application shows that stimulation of the assimilation of new technology must be implemented only within the limits of its economic effectiveness. Prices on this new technology should expediently be set on the basis of the expenditures in the first year of output, while profitability should be envisioned at a level no lower than that achieved for similar previous production. If at this price the new production is more effective for the consumer, then an incentive mark-up is set for it in the amount of up to 30 percent. This serves to increase the material interest of the enterprises in assimilating the new and highly effective production. According to the effective order, the mark-up may include 50 percent of the economic effect, and for products manufactured on the basis of inventions to replace imported goods, as well as for robots--70 percent. In this case, 70 percent of the mark-ups goes to the economic incentive funds, which is a

significant source for their additional replentishment. For example, in 1984, over 60 percent of the growth in the material incentive fund was provided as a result of mark-ups.

The incentive role of mark-ups must increase. While previously they were established only for the first term of effect of the Seal of Quality, and in the second were reduced to one-half their previous amount, in accordance with the resolution of the CPSU Central Committee and the USSR Council of Ministers entitled "On the Widespread Dissemination of New Methods of Economic Management and Strengthening Their Effects on Accelerating Scientific-Technical Progress", mark-ups are retained with the condition that the production is again given a higher category quality with subsequent certifications. This order will stimulate planners of new technology to realize in it all the technical-economic capacities, and not to "hold in reserve" part of them for the future in order to prolong the effect of the mark-up at the time of the next certification.

The mark-up for effectiveness interests not only the enterprises developing the new technology, but also the collectives of design buros and scientific-research institutes. Approximately half of the sum of mark-ups goes toward paying premiums to the developers of new technology. We should create such economic conditions under which the rapid introduction of its production will be achieved. Enterprises are often unwilling to assimilate new production, since this is associated with the risk of not fulfilling the plan by volume indicators. At the present time there is still no mechanism which would resolve the contradiction between volume, new technology and quality. It is easier for enterprises to fulfill volume tasks by putting out old production. Therefore, the "pressure" of the design buros and scientific-researchers—the developers of new technology--on the production associations (enterprises) in the direction of the fastest possible assimilation in production must be supported and developed in every way. We must develop a system of mutual interests of designers and producers in the technical development and improved quality of the manufactured product.

An important role in the solution of these problems is given to the reorganization of management along the line of "science-production." Many of the sectorial institutes and project-design organizations must be included in the make-up of the associations (enterprises), thereby strengthening the plant sector of science. In doing so, the questions of economic stimulation of new technology and product quality will be resolved much more effectively.

However, the stimulating role of prices cannot be based solely on the unilateral application of the incentive principle. Therefore, along with setting mark-ups for new technology, provision has been made for using price discounts for outdated production. Unlike mark-ups, discounts have not yet found widespread application. They were set at up to 30 percent of the wholesale price for products certified according to the second quality category. However, the relative share of such production comprised less than 1 percent, and therefore the sum of discounts for the output of this production was insignificant.

For purposes of stimulating the renewal of production and increasing the relative share of highest category products, the resolution provides for establishing discounts on prices for first category production in the amount of 5 percent the first year, 10 percent the second, and 15 percent the third.

If at the time of the second certification this product is not given the highest category of quality, it must be removed from production. With the permission of the USSR Gosplan [State Planning Committee] and USSR Gossnab [State Committee for Material and Technical Supply], its output may be extended up to 2 years with the application of a 30 percent price discount. In this case, 70 percent of it must be reimbursed from the material incentive fund, whose value may be reduced by no more than 20 percent of its plan amount. Discounts on wholesale prices will not be used for spare parts and units, as well as for production supplied for export. This order will create the necessary conditions for the more flexible application of mark-ups and discounts. It is important that they provide additional profit for enterprises manufacturing leading technology and, on the other hand, place enterprises producing outdated products into a difficult financial situation.

At the present time, the average mark-up to retail prices comprises approximately 10 percent. In the last 3 years it has practically doubled. However, its amount demonstrates the insignificant effectiveness of new production. The number of mark-ups ranging from 20 to 30 percent comprises no more than 15 percent, and around 70 percent of the mark-ups are set at up to 10 percent. This is evidence of the insignificant qualitative improvement in newly assimilated production. And, as practice has shown, setting prices for this production within the limits of its economic effectiveness is difficult. First of all, the production expenditures, especially in the initial period, often exceed the growth of labor productivity and other indicators and secondly, in operation it cannot give tangible results in the savings of outlays by the consumer. Therefore, such technology turns out to be economically inexpedient for the consumer as well as for the producer.

The mass manufacture of new generations of technology capable of giving a many-time increase in labor productivity and opening the way for automation of all production processes will help to resolve this contradiction. Automation is highly productive and justifies itself in production as well as in consumption. The amount of mark-ups to prices on new technology is high enough to ensure material interest in its output. At the same time, setting prices and high mark-ups for effectiveness places a particular responsibility on the price forming organs.

The control over the technical level of newly assimilated production has been resolved in the effective instructions and methodological documents defining the order of its development, formulation for production and certification. However, in practice, the role and responsibility of the consumer remain a weak link in this process. As noted at the conference in the CPSU Central Committee, in order to achieve a significant improvement in the system of stimulating enterprises for the production of high quality goods, it is necessary to take measures intensifying the effect of the consumer on the technical level and quality of production. The effective order provides

that, along with the technical assignment for development of the new production, the consumer also establishes price limits, which are registered in the USSR State Committee on Prices. However, the projects coming to the price forming organs for approval of prices are, as a rule, of low quality. About half of them must be corrected. The computations of economic effect are especially overestimated, although they are coordinated with the consumers. Often the ministries and departments place the coordination of prices and the computation of amounts of economic effect on the scientific-research institutes. In a number of cases the ministry rejects the previously coordinated amounts of economic effect at the stage of formulating new products for production. This attitude toward the economic indicators in the development of new technology assures the consumer of the fact that in the future all the computations will be checked and the price forming organs will not allow overestimated effectiveness indicators. Sometimes coordinated and fixed technical-economic parameters are not confirmed in the process of application of the new technology. The equipment is delivered with defects, and the consumers do not show the necessary degree of exactingness and do not question the price forming organs about cancelling mark-ups, application of price discounts, or removal of the Seal of Quality from the product. For example, in the course of approving prices for the KB5530 press manufactured by the Ivano-Frankovo Production Association "Karpatpressmash", a case of gross disruption in state pricing discipline was discovered. Over a period of 4 years, the association manufactured low quality production and sold it to enterprises at inflated contract prices. Unfortunately, not one of the enterprises inquired from its cooperating enterprises about the actual quality of products or declined to pay. The USSR State Committee on Prices deducted the difference of the inflated prices for the presses from the association and credited it to the state budget. However, the loss suffered by the national economy through the delivery of such production is much greater, and the guilty parties are not only the Ivano-Frankovo Association, but also the consumers. It is necessary that the identification of cases of shipment of poor quality products becomes the concern of all consumers, as well as of the organs of standardization and price formation. The decision has now been made that all expenditures for correcting poor quality production after its shipment will be compensated from the material incentive fund. In accordance with the decisions of the April (1985) Plenum of the CPSU Central Committee and the conference on questions of accelerating scientific-technical progress, other measures are also being developed for setting more stringent requirements for the quality of manufactured production.

A passive attitude by the consumer toward the supplier inhibits the increase in the technical level and quality of manufactured production. Overestimating the economic effect of new production at the planning stage leads to an increase in expenditures. This is even beneficial for the producer, since it is easier for him to manufacture new production with increased expenditures. At the same time, a higher price will be set for this production, which will facilitate fulfillment of the plan by cost volume indicators. This situation is a consequence of the "expense" method of economic management, and the struggle against it is a current task for all economic services of enterprises, associations, ministries and departments. However, it is impossible to oppose the overestimation of economic effectiveness of developed technology without the active participation of the product consumers. Therefore, it is necessary

to increase the responsibility of the consumers for determining the effectiveness of new technology. In connection with this, the proposals of some economists regarding computation of effectiveness in plan assignments by reduction of production cost deserve attention. The practical realization of this position has a number of complications.

The effectiveness of utilizing mark-ups and discounts is interrelated with the order of performing certification of production. The removal of the Seal of Quality from the product and its relegation to the first category deprives the enterprise of the right to use the established mark-up. If certification is not performed on time, discounts in the amount of 30 percent of the product prices must be applied and the products considered uncertified. For this it is necessary to have strictly organized control on the part of the organs of standardization and price formation, the ministries and departments for the timely performance of certification and the identification of uncertified products.

Determining the economic effectiveness of new technology is a complex problem. The economic boundaries of technical progress depend largely on its correct solution. At the present time, there is a widespread opinion regarding the fact that the economic boundaries of the effectiveness of new technology are determined by its basic indicator--productivity. This leads to the conclusion that the specific price per unit of productivity and capacity must always be reduced. This opinion, in our view, does not correspond to the effective methodological positions for determining the economic effectiveness from the application and introduction of new technology, ratified by the USSR Gosplan, GKNT [USSR Council of Ministers State Committee on Science and Technology], the USSR Minfin [Ministry of Finance] and the USSR Academy of Sciences.

The economic effect is comprised of numerous factors. Aside from the growth in the basic indicator of the new technology (productivity), its effective application, the reduction of expenditures for the consumer in the process of operation, the economy of raw goods, materials, fuel and electrical energy, the liberation of the work force, etc. also have great significance. Under current conditions, the social factor also takes on ever greater importance. Unfortunately, as yet there is no correct and substantiated economic evaluation of this factor. The same is true also for problems of environmental protection. We know that expenditures associated with the ecology are increasing at a rapid rate and that the requirements for technology are increasing from this standpoint (especially in the mining industry and energetics).

In establishing prices and mark-ups for new technology, it is necessary to consider the entire complex of questions associated with technical progress. Therefore, it would be unjustified, in our opinion, to reduce the problem of economic effectiveness merely to the specific price computed per unit of productivity. Of course, it is good when the growth in productivity exceeds the growth in prices for new machines and equipment. And such cases are not uncommon, especially when the development of the new technology is based on new and effective inventions and discoveries. However, such is not always the case. If the price for a new product is higher than its productivity, this does not mean that its application is ineffective. For example, according

to the effective prices, the cost of one horsepower force of the Kirovets tractor is higher than that of a 50 or 75 horsepower tractor, or the cost of one ton of load lifting capacity of a type MZ 100-ton dump truck is greater than than of a 25-ton truck. There are many such examples, and they reflect the real regularities in expenditures for the production of higher capacity technology of new generations. And it would be completely unjustified, in our opinion, to conclude on the basis of these data as to the absolute growth in prices for the new technology. The effectiveness of the price for it must be determined not by the indicator of unit of capacity, but by computation of the indicator of useful effect.

At the present time, particular attention is given to the introduction of resource-saving engineering and technology. The questions of price and effectiveness of such technology must be resolved with consideration for the economy of fuel, raw materials and electrical energy, and for increasing the efficiency factor, etc. Naturally, the expenditures for assimilation must be less than the economy of fuel-raw material resources, with consideration for their correct economic evaluation.

Technology associated with electronic control systems has a high price. Modern machine tools with digital program control, processing centers and robots may ensure a high effectiveness only if they are used in complex in an automated work mode and have a higher level of application.

The conference held at the CPSU Central Committee on questions of accelerating scientific-technical progress pointed out that the effectiveness of new technology which entails revolutionary changes in production depends not only on increased output, but also on its integrated application in the national economy. The new technology must be concentrated primarily in those sectors which inhibit further growth of production. This will ensure integrated automation of the work so that the old technology does not hinder the advantages of application [of the new technology]. The problem of locating new equipment takes on ever greater significance, especially at the present time, when the assimilation of robotized and flexible production systems is in progress. And we cannot allow current equipment and robotized systems to be disseminated according to the distributional principle without any in-depth substantiation of their effective application at a given enterprise or production sector. Otherwise, expensive technology will be "built in" to an already formulated technology and not only will not yield an effect, but will lead to increased expenditures.

Another aspect of the problem is the application of technology of a new generation. Today the technical directives reflect the technical-economic parameters of new machines and equipment. Along with this information, there must also be data on the technological directives for operation of the new technology (including also the requirements for raw materials), under which it will be economically justified. Such information must necessarily be made available to the consumer. And if the consumer cannot provide the appropriate conditions for its assimilation, then he should not get the technology. This would create more reliable conditions for control over the rational application of new machines and equipment at enterprises, and would also increase their responsibility for ineffective application.

With the introduction of technology which frees the workers from heavy and monotonous labor, i.e., technology which improves their social conditions, there is a change in technology, production conditions are improved, and the problem of securing the work force is solved. An example of this may be the equipment of light industry with ATPR and STB type weaving looms. Although the prices of these machines exceed the growth in productivity, their introduction is nevertheless economically justified.

The assimilation of current engineering in light industry which is associated with the application of new technology and the improved quality of consumer goods also requires a broader approach to the evaluation of its effectiveness. Only the output and sale of high quality goods can at the present time ensure the fulfillment of the plan for goods turnover. We are speaking here, of course, not of protecting high prices on new technology, but rather of a more complete and objective evaluation of the economic expediency of stimulating its introduction. As concerns the problem of reducing the level of expenditures and prices for new technology, it is one of the current ones. Fulfilling the task of increasing the effectiveness of production is directly associated with the reduction of expenditures in machine building. There are many reserves here for the economy of material as well as labor expenditures. Reducing the weight of machines and equipment, increasing the use factor of metal, introducing a more effective technology and on this basis reducing production cost--these are the most important tasks facing the machine building ministries in the forthcoming five-year plan.

The expenditures associated with the initial period of assimilation of new production cannot always be reimbursed by the price which is economically beneficial to the consumer. This is particularly true of technology of the new generations. Therefore, an improved remuneration mechanism is necessary.

Expenditures on assimilation are, as a rule, repaid from the unified fund for the development of science and technology. However, the practice of their application requires improvement. This fund is used to finance not only the production expenditures for the assimilation of new technology, but also scientific-design developments. Moreover, the use of monies from this fund for partial repayment of expenditures for assimilation is inexpedient for the enterprises, since the corresponding resources spent on the production of the assimilated product are not reflected in the volume indicators--realized and commodity production. Therefore, the resolution of the CPSU Central Committee and the USSR Council of Ministers entitled "On the Widespread Dissemination of New Methods of Economic Management and the Strengthening of Their Effect on Accelerating Scientific-Technical Progress" stresses that, in order to achieve more complete accounting of work on the development of new technology in evaluating the end results of economic management activity of enterprises, and for purposes of increasing their responsibility and interest in the timely implementation of this work, starting in 1986 the enterprises will include in the volume of realized production the cost of the work in assimilating new technology in production, which was paid at the expense of monies allocated to them from the unified fund for development of science and technology. Underfulfillment of the tasks specified in the plan for production assimilation of products of new technology financed by this fund will be considered in evaluating the plan for realization, based

on responsibilities for product deliveries and in accordance with the concluded agreements. For more flexible maneuvering of the monies in the unified fund for the development of science and technology and for their replenishment (if necessary), the managers of production associations (enterprises) may redistribute the monies in the fund for production development and the unified fund for development of science and technology. This will correspond more fully to the economic interests of enterprises assimilating the new technology.

In resolving the problems of repayment of initial high expenditures for the assimilation of new production, an important significance must be given to price formation. Often the initial expenditures are high and do not enter into the economic parameters of effectiveness even with consideration of the application of monies from the unified fund for the development of science and technology. However, if the product is necessary to the national economy and its subsequent production will lead to a reduction in production cost and prices, the prices may temporarily be set at a higher level for the period of assimilation of the new production, and later reduced. Setting stepped prices must be the subject of a thorough economic analysis. For example, such situations arise in the period of assimilation of new types of production (with operational introduction of new production capacities and technologies). In this case, stepped prices must be set in accordance with the standardized periods of assimilation. The rapid introduction of newly introduced production capacities is an important problem. Cases of tying up imported equipment or its prolonged assimilation are particularly inadmissable. Here, evidently, we must strengthen the economic sanctions against the parties guilty for purchasing the equipment and tying it up. In our opinion, bank interest is not a strong enough measure. Clearly, such equipment should be passed on to other enterprises or ministries with the condition that they make use of it. Also, special sanctions should be established, including also personal responsibility for the loss suffered by the state.

The conference held at the CPSU Central Committee on questions of accelerating scientific-technical progress noted that the export of machines and equipment in recent years in our country is growing slowly due to its low ability to compete and insufficient interest on the part of industrial enterprises. The organizational and economic mechanism stimulating the enterprises to increase exports must be improved. Until recently, the quotas set for currency deductions by exporters of machines and equipment were in fact not fulfilled. Today this question has been resolved. Mark-ups of up to 20 percent on wholesale prices will be set in order to stimulate exporters. This will increase their degree of economic interest. The results of foreign trade activity must be sequentially filtered down to the enterprises so that they may be reflected in the cost accounting results. This will require more active forms of participation in foreign trade activity by the enterprises exporting the products and will increase their responsibility for the quality of exported production.

At the present time, when the question of radical technical retooling of the national economy is being resolved, as well as the increase in output of new production corresponding to the best foreign and domestic samples and the

substantiation of prices and mark-ups, the importance of reliable information on the technical level and prices of foreign technology is increasing. The system of such information must be ordered on an all-state scale. The foreign trade organizations and appropriate technical services of ministries and departments, as well as leading scientific-research institutes, design buros and scientific-production associations must be involved in this work. We must expand the capacities of the direct producers in acquainting them with the necessary information on current engineering, organization of production and technology at leading foreign companies. The representatives of foreign trade organizations must be more widely involved in the certification of production intended for export. This will increase the role of the certification commissions in evaluating the technical level and quality of production. Indicators comparable with the world level must also be more fully reflected in all the standard-technical documentation. This will facilitate the development and assimilation in series production of machines, equipment, instruments, materials and other products which by their technical and operational indicators rival the highest world achievements. Measures are already being taken in this direction.

In our country, temporary prices are in effect on types of technology which are being assimilated for the first time. These prices are set on products included in the plans for development of new technology manufactured by license to replace import products. These prices are approved by the ministries whose enterprises manufacture the products by contract agreement with the consumer enterprises, They remain in force for a period of 2 years, after which the price forming organs establish permanent prices. Temporary prices are an important link in the system of price formation for new types of production. However, in practice they have not yet found widespread application, primarily due to the insufficient nomenclature of new types of machines and equipment.

The category of temporary prices was introduced in order to permit producers and consumers to find the optimal decisions on level of expenditures and prices for principally new technology during the period of its assimilation. In essence, these are contract prices, and both parties bear responsibility for setting them. Recently the number of ratified temporary prices has decreased. This is associated with the fact that, according to the new practice of setting prices for new types of products, the expenditures for the first year of production are repaid and the achieved level of profitability of the enterprise is retained.

In our opinion, the role of the customer-consumer must be increased in setting temporary prices. The responsibility for the technical level of newly assimilated technology and prices is placed in equal degree also on the consumer. Acting in the role of the customer, he determines the technical-economic parameters of the new product already at the stage of defining the task. This ensures more effective control on the part of the consumer for the technical level and the assimilation times of the new product.

For purposes of greater neutralization of prices to the cost of the raw goods, materials and complement products used, the order of planning the amount of

profit was changed during the price review which became effective 1 January 1982. The profit began to be defined not by the production cost, but by specific expenditures (production cost with deduction of raw goods, materials and complement products). This was one of the efforts to depart from the expenditure principles of economic management. At the present time this has led to a contradiction with certain elements of the effective cost accounting mechanism.

The growth in the material incentive fund is tied in with the indicator of reducing expenditures per ruble of commodity production and fulfillment of the delivery plan. It is unprofitable for enterprises to manufacture products with a high degree of completeness, raw goods or the material factor, since an increase in the production of such goods leads to a reduction in the indicator of expenditures per ruble of commodity production. Therefore, in establishing prices for new types of production, the "push" is toward the old expenditure principle--the requirement to ensure in the prices a profit in amounts which would correspond to the marginal expenditures defined in the plan per ruble of commodity production. This does not occur with the presentation of highly effective new technology for production. Here, the incentive mark-ups fully compensate for any possible non-correspondence. As concerns ineffective production having the first category of quality, here we cannot proceed from the principle of "working into the plan." Such an approach would create the illusion of success, and ultimately the plan assignments would be fulfilled by means of raising prices.

The broad changeover of industry to new conditions of economic management presents the price forming organs not only with new tasks in the sphere of application of mark-ups and discounts, but also in improving all work on setting prices.

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INDUSTRIAL DEVELOPMENT AND PERFORMANCE

PLANT MODERNIZATION, CAPITAL STOCK REPLACEMENT TARGETED FOR FYP

Reproduction Balance Urged

Moscow EKONOMICHESKAYA GAZETA in Russian No 47, Nov 85 p 15

[Article by N. Fomichev, USSR Gosplan subdepartment chief, under the heading "From the Draft 'Basic Directions'": "Updating Assets: Planning, Balance, Effectiveness"]

[Text] The provisions in the draft Basic Directions on production retooling and intensively using the production potential now available have become an integral part of the primary task of the 12th Five-Year Plan. The anticipation is that in 1986-1990 we will accelerate updating of the production apparatus, foremost through the faster replacement of ineffective equipment with progressive, highly productive equipment. We are faced with updating the active portion of the fixed production assets by more than one-third and with increasing the withdrawal of obsolete assets at least two-fold.

These features of the reproduction of fixed assets in the forthcoming five-year period heighten the urgency of the problems of updating fixed assets, of the organization and effectiveness of work in this area.

Demands on Level of Effectiveness

Intensifying the economy as applicable to the effectiveness of fixed assets reproduction poses a new set of demands. First of all, existing fixed assets must be used at the maximum level possible in conformity with modern normative technical and economic production opportunities. New fixed assets (facilities, enterprises) being put into operation must also provide within the established schedules their normative output and normative level of economic results: profit, net cost reduction, labor productivity growth, return on capital. It is important to note here that new fixed assets must be substantially more effective than existing ones. This is mandatory.

Finally, all the fixed assets planned for start-up (facilities, start-up complexes, production capacities ready to produce output) must begin national economic consumption precisely on planned or normative schedule. The demand for promptness in putting new fixed assets into operation and the demand that they be highly effective are decisive conditions for the planned acceleration of intensification.

Progressive growth in the effectiveness of the means of production in use is a most important qualitative characteristic of the process of intensifying the economy. Therefore, when referring to updating fixed assets, the need is not simply to replace them, or renovation for the sake of renovation, but updating which will provide significantly improved effectiveness and the necessary acceleration of socioeconomic development as a whole. "The primary task is to change over rapidly to the production of new generations of machinery and equipment which are capable of ensuring the introduction of progressive technology, of increasing labor productivity many-fold, of lowering materials-intensiveness and increasing the return on capital," the April (1985) CPSU Central Committee Plenum stressed. This task is reflected in the draft Basic Directions.

The stipulation that economic indicators be improved many-fold in the intensification process is a natural law. It takes into account the sharply increased dynamicity in the relationship of extensive and intensive types of reproduction, and the time factor in the economy, under conditions of accelerating scientific-technical progress.

Reproductive processes differ at different stages of development of a given type of production. In the initial stage of branch development, production is generally increased by putting production potential into operation and increasing it through new construction and by expanding available production capacities. At this stage, the withdrawal and replacement of existing capacities is minimal or entirely absent.

But when a branch potential has been created and has been functioning for a long time, resources are required to maintain the production level achieved. The relationship of intensive and extensive factors of economic growth becomes more complex. When evaluating these factors, consideration must be given to the fact that the very concepts of extensive and intensive types of reproduction are multilayered economic categories. It would be wrong to reduce the processes covered by them to a simple relationship like: everything that expands the "field of production" is extensive and everything that increase production volume on that same "field of production" is intensive. Such a simplified approach can be deceiving. Given such an approach, some new enterprises using the most progressive technologies would be judged extensive types of reproduction and some renovated enterprises where the reproduction process continues using essentially the old technical and economic base would sometimes be included among intensive types, without consideration of their actual effectiveness. Consequently, it is not the form of assets reproduction, but the actual impact which defines the measure of resolution of intensification acceleration tasks.

Under present conditions, the demands of intensification pose new tasks: both existing production and new construction must ensure substantial overall effective growth. The resources and capital investments directed into developing existing production will be most effective when they ensure many-fold increases in economic indicators such as labor productivity, reducing material expenditures, saving fuel-energy resources and increasing the return on capital.

We should note the following pattern: the higher the level of social development and the greater the accumulated potential and resources required for its

functioning, the higher the demands on level of the technical and economic results of scientific-technical progress. Given a higher proportion of simple reproduction of assets, a smoother or even a one-time increase in the impact obtained essentially only reproduces the existing level of effectiveness.

For intensive economic growth, both simple and expanded reproduction of assets must as a whole ensure a many-fold increase in effect.

Time Factor

Production intensification forces us to approach recording the time factor from new positions as well; this is especially characteristic for the reproduction of fixed assets and the functioning of the capital construction sphere. The main thing here is promptness in carrying out all measures, beginning with planning and ending with construction organization, from making expenditures to obtaining production and economic results. The demand for promptness also applies to plan development, to construction and to putting finished capacities into operation, to achieving planned indicators, obtaining economic results and recompensing investments.

Promptness in making expenditures and obtaining end results must be ensured by unconditional observance of state normative or planned schedules for designing, building and utilizing new enterprises. Broadening the planning "time" horizon and the necessity of evaluating and choosing economic development variants for the long term presuppose continuing improvement in the normative complex with regard to capital construction and the reproduction of fixed assets. This applies, in particular, to the branch and group (summary) economic indicators. Setting normative values for them would enable one to evaluate the extent to which planning assignments and indicators approximate or conform to the limit, to the maximum level possible, and the extent to which the structure defining them conforms to the planned structure.

Economic processes are complex and diverse. The choice of development variants and the tasks of coordinating individual (enterprise, project, facility) and branch processes substantiate the necessity of evaluating average changes by branch or group of branches (equipment productivity, capacity). Consideration of the time factor leads, in all these evaluations, to better comparability of expenditures and impact over the exact same period and transforms rate-setting into an active tool of intensification.

The conditions for planned economic intensification are: balance in the stages of reproduction over time, attainment of a "temporal" proportionality of expenditures, coordination of the growth of expenditures and end results, and continuous accelerated growth in the effectiveness of the entire fixed assets reproduction process.

Implementation of the task set in the draft Basic Directions, of ensuring, beginning in the 12th Five-Year Plan, the construction and start-up of projects within normative schedules, has therefore taken on the greatest importance.

Economic Results

The rates of scientific-technical progress in updating production are determined foremost by the content and scope of development of new tools of labor, materials and technological processes. Tools of labor are the most revolutionary element in the development of production, the measure of the development of the human workforce. Therefore, the updating process, its rates and effectiveness, must be linked foremost with renewal of the active portion of fixed assets, machinery and equipment.

Analysis shows that there exists in contemporary practice a conflict in the dynamics of the technical and economic indicators of fixed assets reproduction, that is, essentially, between the rates of updating of fixed assets and the acceleration of intensification (1970 = 100):

	1975	1980	1984
labor productivity growth	134	156	176
growth in availability of capital to labor	142	193	246
profitability of fixed assets (in percent)	17.1	13.2	13.4

During the 1970-1984 period, the rate of labor productivity growth lagged behind the growth in the availability of capital to labor, and the lag has been increasing. The level of profitability of industrial fixed assets has been decreasing. These processes also occurred in other branches of the economy, in agriculture, in construction and in transport.

The 12th Five-Year Plan must also be a breakthrough as regards the economic indicators of fixed assets updating. Their rejuvenation must be as effective as possible.

Systematic implementation of the demands for planning, balance and effectiveness in the use and updating of fixed assets will be of decisive importance in ensuring complete, comprehensive intensification of the economy. The planned inventorying of fixed assets and development of a system of long-range planning of the entire process of their reproduction are called upon to become an effective tool for this.

The primary purpose of the inventorying is to evaluate the technological and economic level of the fixed assets. Specific indicators of productivity, labor intensiveness, materials intensiveness, metals intensiveness and energy intensiveness of machinery per unit of power or productivity should be adopted as the generalizing characteristics of the technical-economic level of the assets. It is appropriate to compare these indicators with the best foreign and domestic analogs for the main types of machinery and equipment, using certification materials as well.

At the same time, we should determine the degree of fixed assets wear, the extent of the means [of production] which will be subject to write-off as obsolete or obsolescent, and the possibility of transferring them to those enterprises and organizations where they could still be used productively.

The nationwide inventory is an important preparatory stage in the development of plans and programs for retooling and renovating existing enterprises and branches of the national economy.

Questions of capital investment effectiveness deserve particular attention. Retooling and renovation are necessary first of all as a means of accelerating intensification and improving the effectiveness of social production

Gosplan Official Discusses Survey

Moscow EKONOMICHESKAYA GAZETA in Russian No 50, Dec 85 p 2

[Article by F. Glistin, department head at the USSR TsSU (Central Statistical Administration) Scientific Research Institute, and I. Perepechin, USSR TsSU department chief, under the heading "From the Draft 'Basic Directions'": "Retooling Production"]

[Text] An important role in implementing party economic strategy is given to retooling production. This is understood to mean a complex of measures to raise the technical-economic level of individual production facilities, shops and sectors on the basis of introducing leading technology and advanced equipment, mechanizing and automating production, modernization and replacing obsolete and obsolescent equipment with new and more productive equipment, and also improving plant-wide systems and auxiliary services.

In 1986, some 37.4 billion rubles in state capital investment, 23 percent more than in 1985, is being directed into retooling and renovating existing enterprises. In this connection, the urgency of problems of using the funds being allocated effectively has increased.

The draft Basic Directions in the 12th Five-Year Plan anticipate directing capital investments foremost into renovating and retooling existing enterprises, the proportion of production construction oriented towards this being increased to 50 percent.

Conditions of High Effectiveness

As is evident from the data in the table, specific expenditures on retooling existing enterprises have risen from 22.6 percent of state capital investments on production facilities in 1981 to 25.5 percent in 1984. The anticipated 1985 proportion is 27.2 percent.

Reproduction Structure of State Capital Investment on Production Facilities

	1981	1982	1983	1984
capital investment, total, percent	100	100	100	100
including that directed into:				
renovating existing enterprises	9.4	9.8	9.7	9.7
retooling existing enterprises	22.6	23.5	24.1	25.5
expanding existing enterprises	26.5	25.2	25.0	23.7
new construction	36.9	37.1	36.9	37.0
maintaining capacities at existing enterprises	3.7	3.4	3.2	3.0
individual facilities at existing enterprises	0.9	1.0	1.1	1.1

In a majority of instances, the retooling of existing enterprises provides greater capital investment economic effectiveness than new construction, expansion, or even renovation. The time involved in utilizing capital investment is reduced and a return on investment in the form of additional output and profit is obtained considerably faster. A substantial social impact is also generally achieved: environmental protection, equipment safety and working conditions are improved, the number of workers employed at difficult manual labor decreases.

Of course, good results can be achieved only given careful substantiation of the retooling variants, the use of leading achievements of science and engineering in the plans to permit obtaining the greatest socioeconomic impact under specific production conditions.

The fruitfulness of retooling also depends on when it is done and on whether designed capacity is reached promptly.

It is necessary to distinguish between the potential and actual effectiveness of retooling results in the evaluations. If it is not operated skillfully, technically very advanced equipment will not convert high potential effectiveness into a significant actual impact.

Consequently, we need to constantly analyze the results achieved. In order to do this, regular statistical surveys are most useful. The USSR TsSU intends to conduct them annually at the whole range of industrial enterprises involved in retooling with an actual cost of over a million rubles. Preliminary surveys were conducted in 1984 at 11 machinebuilding ministries and will be conducted in 1985 in five ministries operating under the new management conditions.

What the Surveys Showed

The data from the statistical surveys confirmed the considerable effectiveness of capital investment in retooling machinebuilding enterprises. The profit thus obtained reached the amount of capital investment in approximately 4.4 years, given a capital investment reimbursement period normed at an average of 8-9 years. At individual enterprises, the effectiveness is even higher. Thus, the capital investment reimbursement period for retooling at the "Krasnyy molot" chemical machinebuilding plant in Tikhoretskiy and the "Avtomatika" plant in Kirovakan was 1.8 years.

The average length of one retooling effort at the enterprises surveyed was 1.6 years. Thus, the total duration of the capital investment and the reimbursement, that is, the length of the investment cycle, was six years (4.4+1.6). This is considerably less than the average indicators for capital construction.

On average, 0.3 year (or 3.6 months) was required to create one million rubles in fixed production assets through renovation; the figure was 0.62 year for production construction as a whole, that is, twice as long.

An average of 78 kopecks was required to produce one ruble of additional annual output when machinebuilding enterprises were renovated, which is approximately

two-fold less than for production construction as a whole. Labor productivity after machinebuilding enterprises completed retooling had risen an average of 18 percent.

For the surveyed aggregate of enterprises as a whole, the proportion of construction-installation work was only 6.1 percent for retooling. Approximately a third of all the measures consisted in replacing equipment without doing any other work; about 25 percent of the measures involved introducing new equipment and included installation; slighly less than a quarter of the measures involved production automation and mechanization.

At the same time , the survey showed that only 20.9 percent of the enterprises did the retooling on the basis of finished estimate-planning documentation containing technical-economic substantiations and calculations. And at enterprises of the Ministry of Power Machinebuilding and the Ministry of Machinebuilding for Light and Food Industry and Household Appliances, almost all the retooling was done without finished estimate-planning documentation. This situation cannot, of course, be considered normal; technical-economic substantiations must be included in all cases, without exception.

Plan quality also must be improved. Thus, the calculated impact was below the norm at 19.4 percent of the enterprises retooling. These were precisely the cases when either a more effective plan should have been chosen or another type of fixed assets reproduction should have been selected.

A comprehensive approach is used in far from all retooling planning. Thus, a majority of the plans did not anticipate fixed assets profitability growth or increased return on capital. The basic indicator which improved appreciably in comparison with previous levels was labor productivity.

Analysis shows that the effectiveness of retooling expenditures can be increased. In particular, better use should be made of production development funds for retooling purposes. However, a reduction in the proportion of the production development fund directed to these purposes was observed at certain enterprises in 1984, and the proportion of equipment decreased in these retooling expenditures.

The enterprises surveyed were not fully provided with equipment, contract agreements or estimate-planning documentation in all instances. In this connection, the concept of creating specialized contractor organizations for retooling work deserves attention, in our opinion. Its effectiveness will increase if enterprises carrying out retooling are provided with the needed equipment, estimate-planning documentation and contract agreements in full. Measures along this line are outlined in the decree on developing new management methods.

Improving Monitoring and Analysis

Improving the monitoring of retooling and its socioeconomic results could be very important to increasing its effectiveness. The monitoring must encompass such questions as meeting plan assignments, attainment of planned level of technical-economic indicators, observance of normative construction schedules, specific capital investment norms and other norms regulating the investment process.

With a view towards improving monitoring, the current construction duration norms should be supplemented with special retooling duration norms. These can be differentiated by branch and type of production, as well as depending on the cost of the measures and the proportion of expenditures on equipment.

The most important task of analysis is to obtain prompt, anticipatory information which must, in our view, be used to supplement existing evaluation indicators, and foremost those describing plan fulfillment.

Such an approach requires, in our opinion, a registration form of observation. Since 1983, the USSR TsSU has had a register of production construction sites at which new construction, expansion or renovation is in progress. Indicators important to monitoring construction are reflected in it annually, by individual construction site and by group of sites: degree of readiness, time since start of construction, technological structure of expenditures.

It would be appropriate to expand the register to include data on enterprise retooling, as well as on amounts of output and profit obtained through capital investment over the actual or normative reimbursement period, that is, over approximately 6-8 years.

It would also be appropriate to introduce indicators describing the amounts of retooling planning-investigation and construction-installation work, the times involved, and the basic technical-economic indicators of the plans.

Initial recording and plan indicators must also be improved. In particular, the 1984 survey showed that not all enterprises can single out in the initial recording the amounts of output and profit obtained specifically through retooling, which makes it harder to monitor the effectiveness of expenditures. Labor productivity is absent in the technical-economic indicators (separately for each enterprise and type of capacity) being submitted by the ministries, departments and union republic councils of ministers in the draft 1986-1990 retooling capital investment plan. Data are not available on the profitability of fixed assets, the reduction in net cost per unit of output, the proportion of equipment, the fixed assets updating coefficient, the value of fixed assets being withdrawn and their wear. Such indicators would be very desirable, however.

An important role in intensification belongs to retooling. All the advantages of this type of reproduction of fixed production assets must be fully used.

Expenditures Redistribution

Moscow PRAVDA in Russian 2 Jan 86 p 3

[Article by economists A. Pashchenko and V. Silin: "Investment Policy: Directions of Restructuring"]

[Text] The restructuring of social production is making new demands on investment policy. "It is called upon to ensure increased capital investment effectiveness, concentrating it in the decisive sectors...," the draft of the new edition of the CPSU Program notes.

Accelerating socioeconomic development presupposes changes in the branch and reproduction structure of capital investment and the technical level of capital-creating branches so significant that one can legitimately speak of a radical restructuring of investment policy. The reference is foremost to the sharp increase in the scope of retooling and renovating existing enterprises. This is precisely the link which, if grasped, can lead to the resolution of a whole chain of problems: average time involved in creating fixed assets and putting them into operation is reduced, the amounts of construction required are reduced by improving the technological structure of capital investment, and the number of jobs requiring low-skill or manual labor is reduced, thus increasing the equipment operation shift index.

In the planning projections for the 12th Five-Year Plan, the rates of increment in expenditures on retooling and renovating existing enterprises will exceed the rates of increment in all capital investment by 2.8-fold; in 1990, they will comprise 50 percent of production construction, an increase of 1.5-fold.

Work on the 1986 plan has demonstrated the feasibility of these tasks. The absolute volume of capital investment being directed to these purposes will be increased by nearly a fourth in one year (an increase which would previously have required four years) and the technological structure of capital investment will be improved.

Such, to be blunt, cardinal growth in the scope of retooling and renovating existing enterprises will require that all ministries and departments carefully set up and carry out on schedule their inventorying of fixed assets, determine their technical level and, in combination with the certification and rationalization of jobs, compile a long-range program of technical development and updating of production for each branch.

At the same time, there must obviously also be new construction to increase capacity when it becomes no longer possible to increase capacity at existing enterprises, to produce fundamentally new types of output. However, the framework of this construction needs to be limited.

Capital investment concentration will permit the installation of projects within normative schedules, reduced construction-installation work requirement, improved balance with the capacities of construction organizations within branches and, especially important, within territories of the country.

In conjunction with increasing the withdrawal of fixed assets at least two-fold, the planned start up of fixed production assets will permit us to update more than a third of the active portion of fixed assets in the 12th Five-Year Plan. Understandably, the scale of this updating is not an end in itself. The important thing is that is proceed on a new technical basis.

A key role in resolving this task belongs to machinebuilding. It would seem we need to depart from the practice of distributing capital investment according to the principle "something for everyone," improve the capital investment ratios in the resources-extracting, processing and consumption branches, giving priority to those which determine scientific-technical progress. We need to transform machinebuilding from a "bottleneck" in our economy into an effective engine of progress.

Intensifying the second most important capital-creating branch, construction, by transforming its production into a unified industrial process must become an important element in the new investment policy.

One of the primary conditions of acceleration is the zealously thrifty use of resources. This means first that capital investment must ensure balanced growth of the branches of material production, preventing losses in the national economy. Second, investment policy must facilitate efficiency in the development and introduction of resources-conserving technological processes. If based on such principles, it will provide the material-technical conditions for raising the standard of living of the people, for its spiritual and cultural development, for increasing the effectiveness of social production.

Naturally, full restructuring of investment policy can be achieved only given certain organizational and economic conditions. A number of steps have already been taken to improve construction production organization, to improve labor productivity in it, to perfect planning and the economic mechanism in estimate-planning work.

On the agenda: shaping a comprehensive system of planned management of the investment process.

The key point in such a system is to ensure efficient relationships of rights, duties and responsibilities of each of the participants in developing and implementing capital investment policy. Defining precise duties and rights for the ministries, departments, territorial agencies, associations and enterprises will increase their independence.

Analysis of the economic mechanism operating in the investment sphere shows that transforming it into part of a comprehensive system of planned capital construction management must be done by changing the financing of investment activity by the client and by strengthening economic influence in the management sphere.

One would think the expansion, renovation and retooling of existing enterprises of industry, agriculture and construction should be financed through both own and borrowed funds. This would substantially narrow the sphere of operation of free budget capital investment financing and would, to be blunt, do little to stimulate the recipients to spend the funds economically. In 1986, the plan is to more than triple noncentralized capital investment through enterprise funds, and by the end of the five-year plan it will have increased several times more.

We also need to take the approach of planning construction and existing production as a unified whole. It is time to evaluate the level of use of designed capacity by existing enterprises and their attainment of planned indicators.

Are there objective opportunities for carrying out all these measures very quickly? Yes. To do so, we will need the keen, interested, coordinated activity of thousands of specialists, scientists and practical workers, of all those working out and implementing the country's investment policy.

Targeting Technical Development Funds

Kiev EKONOMIKA SOVETSKOY UKRAINY in Russian No 10, Oct 85 pp 12-19

[Article by Doctor of Economic Sciences and Professor B. Shcherbitskiy and Doctor of Economic Sciences and Professor V. Yatskov: "Perfecting Planning of the Technical Updating of Production"]

[Text] An important role among the basic tasks of shaping branch scientific-technical programs in the 12th Five-Year Plan belongs to retooling and renovating existing enterprises. In light of the resolutions of the April (1985) CPSU Central Committee Plenum and the June (1985) CPSU Central Committee Conference on Accelerating Scientific and Technical Progress, this line has now become one of the primary directions in intensifying social production and improving its effectiveness. Retooling and renovation are the process of qualitatively updating the material-technical base of existing enterprises on the basis of introducing the achievements of science, engineering and leading experience. They provide an opportunity to increase production, improve product quality, raise the level of use of raw and other material resources. as well as improve other technical-economic indicators, while keeping the number of jobs stable and reducing construction-installation work as compared with new construction.

The experience of the leading collectives proves convincingly that retooling and renovation permit successful resolution of the complex problems of production development, of retuning it to a modern key. As was noted at a CPSU Central Committee meeting, this way is quite a bit shorter, cheaper and more effective. The return on renovation is generally twice as high as that on new construction.

Calculations show that specific capital investment in retooling and renovating existing enterprises is 8-10 percent less than for new construction, sometimes as much as 20-25 percent less. At industrial enterprises of the Ukrainian SSR, expenditures on introducing new equipment by reducing current expenses are recompensed in two to 2.5 years, while the normative capital investment recovery period is 6.6 years. Given average 10-percent growth in specific expenditures on retooling and renovation, among all capital investment in 1981-1983 in a group of Ukrainian enterprises surveyed by the UkrNIIPiN [not further identified], 15-16 percent of the increment in labor productivity and 11-12 percent of the increment in commodity output was accounted for by this. The number of workers employed in manual labor decreased by 3.7 percent for this group of enterprises.

However, the rates of renewal of equipment are still not high enough to impact on the transition to a primarily intensive type of reproduction in a decisive way. For the group of ministries, associations and enterprises surveyed, assets introduction exceeds assets withdrawal. New equipment introduced in the course of retooling is not always characterized by high technical-economic parameters and often does not correspond to the existing fleet of equipment or the tasks of retooling in its specifications. Equipment load at the enterprises often remains low in terms of power and time in use. Thus, mechanized flow and

automatic lines are presently operating at approximately 50-percent loads. The effectiveness of renovation and retooling is substantially reduced by using equipment beyond its reference service life.

Many enterprises, ministries and departments analyze the effectiveness of retooling and renovation spasmodically and not on the proper methods basis. As a result, planning and statistical agencies, ministries and departments do not have available to them systematized data on planned and actual effectiveness. We need to continue improving the program-target planning of retooling, a new form of national economic planning called upon to ensure the concentration of manpower and resources on resolving important economic tasks. Much work has been done by party, soviet and economic agencies of the Ukraine on developing program-target planning and management. The republic is currently implementing a number of republic programs and hundreds of branch and regional scientific-technical programs which, in accordance with the resolutions of the April (1983) and July (1985) Plenums of the Central Committee of the Ukrainian Communist Party, will be doing considerable work on resolving the tasks of accelerating scientific-technical progress. Dozens of UkSSR ministries and departments, hundreds of scientific, planning and design organizations and VUZ's, and thousands of republic enterprises and associations are participating in the system for managing the development and implementation of these programs.

At the branch level, specific tasks for technically updating the branch as a whole and individual production facilities must be shaped, and the basic content of the corresponding programs must be established for the most important facilities. This work will require the efforts of the ministry and department technical administrations and close coordination with other administrations such as economic-planning, capital construction and material-technical supply subdivisions, as well as with branch scientific research and design organizations, in developing the main lines for implementing technical policy in the branches, as well as assignments and programs on their retooling and renovation in the 12th Five-Year Plan and the more remote future. To implement such an approach, we will need to reject certain previous methods of management and arm ourselves with progressive new methods of planning and management.

The large-scale economic experiment currently underway must resolve many things. In the area of technically improving production, it relies on the enterprise's own sources, such as the production development fund and other noncentralized capital investments. These funds are to be provided with all types of resources, matched one-for-one by centralized capital investments. Furthermore, enterprises are allowed to accumulate funds for these purposes over a number of years. However, construction-installation organizations are not interested in doing renovation and retooling at existing enterprises. Attempts by the USSR Gosstroy to solve this problem have yet to achieve the desired result. A firmly established procedure for doing this kind of work does not yet exist.

The large-scale experiment has not yet created such internal incentives. The habit of obtaining capital investments from the state budget gratis and outright is tenacious; many enterprises prefer to direct funds from the production development funds into replacing old equipment, rather than into comprehensive production retooling. Planning and financial agencies and the USSR Gosstroy are faced with finding more-effective economic incentives and levers so as to

interest the construction-installation organizations in working within an "existing enterprises" framework.

On the other hand, the production development fund at many enterprises is very insignificant, completely inadequate for any substantial technical updating of production. There is but one way out of this situation. We need to concentrate such funds for several enterprises at the ministry and department level and use them in the sectors which are decisive at a given moment. But this will require a clear technical policy in the branches, and not all the branches have such a clear and concrete policy yet. Many associations and enterprises have not drawn up five-year retooling plans. In the best case, annual plans are developed, and even then, for by no means all enterprises. Due to the lack of long-range plans and programs and advance enterprise (association) retooling and renovation plans, funds are often spent not on acquiring what is needed, but on what is easiest to acquire. Such a situation is a substantial brake on the planned updating of fixed assets. Without a clear perspective, enterprises and associations cannot order at the proper time promising equipment which they will soon need. For the state, this is turned into significant moral and material outlays, since the resources being used are not creating a new technical base, but are facilitating growth in the numbers of obsolete machines and additional work stations. In sum, the basic tasks and primary goals of updating remain unresolved when it is done this way.

Retooling and renovation plans must be worked out first of all at the enterprises, associations, ministries and departments participating in the economic experiment, as they have significantly greater opportunities for improving the economic mechanism of accelerating scientific-technical progress. It is easier to create retooling plan priorities under these conditions, and the enterprise and association collectives are more interested in successfully carrying them out.

However, the task is for all other enterprises to conduct this work in an organized manner as well and to achieve universal development of such plans, projects and programs for the 12th Five-Year Plan. Resolution of this task will depend largely on the methods available for analyzing and planning this line of fixed assets reproduction. The preparation of "Methods Instructions for the Development of Summary Retooling and Renovation Plans for Existing Production Associations (Combines) and Enterprises by Ministries (Departments) and Union Republic Councils of Ministers" and "Methods Instructions for Developing Retooling Plans for Existing Production Associations (Combines) and Enterprises," which establish unified procedures for planning retooling in all links of social production, has been an important stage in the creation of such methods.

There have been instances when the development of retooling measures has anticipated obtaining the funds necessary for extensive production expansion, rather than intensification and increased efficiency. The changeover to primarily intensive factors of economic growth presupposes a faster increase in expenditures on retooling and renovation than on other forms of reproduction and, consequently, a strengthened role for its main source of financing, the production development fund. However, according to the survey data, this fund has increased insignificantly in the 11th Five-Year Plan and has tended to decrease in a number of instances. This has been the situation, for example, in the

UkrSSR Ministry of Building Materials Industry, UkrSSR Ministry of Meat and Dairy Industry, UkrSSR Glavneftekhimprom and other departments which have generally lacked sufficient production development fund resources to finance enterprise retooling and renovation. At the same time, up to 40 percent of the production development fund resources are spent on purposes having no direct bearing on raising the technical level of the enterprises, such as road construction and maintenance.

In view of the fact that the production development fund is the main source of financing for retooling and renovation, we need to change the procedures for generating it. Today, the fund is created without consideration of the actual retooling requirements of the enterprises. The amounts of capital investment planned for these purposes from all sources of financing, including noncentralized as well, are not generally linked to production growth rates, which leads to their being inadequately substantiated. At the same time, consideration of these factors when working out the normatives for forming the production development fund, a differentiated approach within the framework of the individual branches and enterprises, would permit the formation of development funds adequate in amount for the technical updating of production.

In order to improve resources support for retooling and renovation, we also need to improve the flexibility of the system for calculating and using depreciation deductions, to increase the share of renovation deductions remaining available to the enterprise, and to make greater use of additional expenditures for these purposes through depreciation deductions for major overhaul. Associations and enterprises should formulate in their draft plans and programs a range of measures to be financed through development funds, in conformity with a precise delimitation of the forms of fixed assets reproduction. excluding the arbitrary inclusion for these purposes of expenditures not connected with retooling and renovation.

The ministries and departments also need to resolve the question of perfecting a system of scientifically substantiated normatives for forming the development fund, including normatives of deductions from profit and the principles for differentiating them, to be based on the long-range requirements of the associations and enterprises for financial resources to perform their normatively regulated functions of reproducing tools of labor; they need to be granted the right to create 20-25 percent above-limit production development funds, creating conditions for their effective use and facilitating increased enterprise cost-accounting independence. In practice, enterprises often use the production development fund and the unified science and technology development fund (YeFRNT) interchangeably. The ministries and departments need to determine more precisely the directions in which these funds are to be used, since the latter is formed on the basis of different principles and has different intended purposes.

The growing importance of intensive factors of economic growth makes greater demands on the capital investment structure: the proportion of expenditures on retooling existing enterprises must grow steadily and must be accelerated, while the proportion of construction-installation work must be decreased. As research has shown, the construction-installation work normative in the branch methods requires refinement to reflect the features of the technological

processes in the branches of industry. It is appropriate to plan the limits on capital investment for retooling and renovation separately, since their technological structure is differentiated by the fact that the specific amount of construction-installation work in retooling is several times lower than the amount in renovation.

The results of research done by the UkrNIIPiN, jointly with the Economics Institute of the UkrSSR Academy of Sciences, show that it is appropriate to single out the following sections in the structure of a retooling plan, with consideration of the main aspects of comprehensiveness and the requirement that the work be more goal-directed:

analysis of summary technical-economic indicators and results of retooling;
retooling work programs and assignments;
determining the requirements for equipment, devices, raw and other materials;
determining the levels of retooling capital investment.

In accordance with this structure, the goal principle of the planning is implemented in corresponding assignments which determine the rise in the technical-economic level of production. The assignments must be a complex of measures for carrying out target programs of technical development at existing enterprises. Shaping such programs permits connecting in a unified complex all measures involving raising the technical-economic level of production, including the necessary scientific research and planning-design work.

The development of retooling plans, including enterprise renovation plans, must be done at the ministry and department level. This is due first of all to the fact that the ministry (department) is the mediating link in the vertical connections between the centralized planning and management system and the lower economic links, the associations and enterprises; second, it is at this level that the horizontal (interbranch) connections are set up; third, the ministries and departments are the primary structural subdivisions in which the directives are concretized and in which current and long-range programs of scientific-technical progress in the branch are worked out. The principles of implementing branch technical policy and the opportunities for broadening the scope of introduction of the latest achievements of science and technology into production can be invested most fully at the ministry or department level on the basis of retooling and renovation plans for existing enterprises.

In turn, the planning of renovation and retooling work volumes through assignments and consolidated measures can be represented by developed long-range programs or projects for renovating and retooling existing enterprises, which facilitates the goal-directedness of the plan and provides additional opportunities for linking its sections to each other and to other sections. In specially-developed forms, they reflect equipment, raw and other material requirements and the need to train or improve the skills of personnel, and thus the renovation and retooling work volumes being planned are coordinated with the appropriate resources support.

As research results have shown, such an approach to branch and production facility retooling and renovation planning permits consideration of a number of the most important aspects of comprehensiveness, including:

comprehensiveness along a "goals - methods of attainment - resources" line (including ensuring the best possible coordination of the retooling and renovation plan with other plan sections for the enterprise, association or ministry);

comprehensiveness along a "science - technology - production - consumption" line (to make the most complete and most effective use of the achievements of science and engineering in production);

"vertical" and "horizontal" comprehensiveness, within the framework of resolving an "enterprise - association - ministry - branch - national economy" problem.

With consideration of these most important aspects of comprehensiveness, an opportunity is opened up to actualize more fully the problem being resolved. This approach anticipates combining centralized shaping of a branch technical policy through concrete assignments and directions of retooling and renovation with the purposeful initiative of the lower planning level, where specific measures are worked out to carry out the assignments with consideration of the available internal reserves.

In the analysis process, particular attention must be paid to the possibility that production volumes may increase and product quality may be improved by retooling and renovating existing enterprises, to the possibility of raising the level of availability of equipment to labor through production mechanization and automation and by improving technological processes, to the possibility that the level of use of the existing fleet of production equipment and its updating may rise due to replacement and modernization, and to the possibility that greater use may be made of progressive types of raw and other materials. An analysis of the technical-economic level of production along the indicated lines should generally be accompanied by a comparison of its characteristic indicators with those transmitted to the enterprise, association or ministry (department) by a superior organization or by directive agencies, as well as by a comparison of these indicators for the enterprise and analogous indicators for enterprises or branch-average indicators. Such an orientation of the analysis will permit better detection of intraproduction reserves.

The planning mechanism is oriented toward use of the target-program method. To this end, the methods instructions approved by the USSR Gosplan have been oriented basically towards substantially improving production effectiveness indicators: labor productivity growth, lowered materials- and capital-intensiveness of production, and also towards updating fixed assets and the output produced and towards improving product quality. The basic provisions of the methods instructions have been tested in a number of ministries and departments of the UkrSSR and USSR and have yielded generally positive results.

When drawing up retooling and renovation plans and programs, special attention should be paid to revealing what equipment is obsolete and obsolescent, as well as to working out steps to replace it. The amounts and lists of equipment being replaced at the enterprises must be based on economic effectiveness calculations. Equipment replacement and modernization will be legitimate when they ensure a higher proportion of progressive types of equipment, improvement in the technological structure of the equipment fleet, greater equipment safety and improved working conditions. In order to increase the annual percentage of obsolete and obsolescent equipment in industry being withdrawn and replaced

to two-fold (to the calculation normatives), the proportion of equipment to be written off and the proportion of new-equipment resources being directed into replacing it must be planned in each branch.

Thus, the retooling and renovation plans and programs are aimed at ensuring a close interconnecting of the economic, scientific-technical and social aspects of planning, its branch and territorial cross-sections, at ensuring expansion and strengthening of the goal-directedness of resources distribution and improving the economic substantiation of branch and production facility technical development on the basis of an integral combination of centralized leadership and the initiative of the individual links. The summary retooling and renovation plan is based on the aggregate of corresponding branch and regional programs. It is precisely the plan which determines the sequence of program implementation, the qualitative composition and content of the measures conditioned by the programs.

The basis of development of retooling and renovation plans and programs must be a normative base orienting production towards introducing progressive resources- and labor-conserving equipment and technology. However, in essence, not one republic organization is involved in working out the organizational-methods principles of creating and introducing such a normative base. As a result, the plans and programs for retooling and renovating existing production which must be worked out for the 12th Five-Year Plan will be based on norms, normatives and indicators incompletely reflecting the specifics of technical updating at existing enterprises.

Experience testifies that, when working out industry retooling and renovation plans, the organizational forms of management of this process are very important. Among the organizational measures, we should single out the necessity of developing at the ministry and department level branch lists of measures and work programs recommended for introduction, with substantiations of their economic effectiveness. In this regard, consideration must be given to branch specifics and the branch long-range development plan, and there must, mandatorily, be an analysis of the actual effectiveness of retooling and renovation in the republic national economy. In turn, the republic Gosplan must generalize retooling and renovation experience at existing enterprises. However, the UkrSSR Gosplan and TsSU have thus far not had available to them systematized data on planned and actual retooling and renovation effectiveness.

The UkrSSR TsSU evidently needs to change and supplement the system of state reporting so as to include in it the technical-economic indicators anticipated by the instructions for developing plans for retooling existing production associations (combines) and enterprises, since state reporting based on retooling and renovation results is currently unavailable. The existing system of recording does not enable one to obtain complete information on the effect of scientific-technical progress on production activity results: growth in production volume, labor productivity, return on capital, output quality and net cost, growth in profit, and others. This occurs for three main reasons. First, the statistical information gathered does not corresponding to accounting data; second, the set of new-equipment statistical forms does not ensure the completeness, comparability or continuity of the statistical information; third, due to the slight discrepancies in them, the accounting and statistical data do not provide reliable information for making planning decisions and developing measures to implement and monitor them.

The indicators for evaluating the influence of scientific and technical progress measures on raising the technical-economic level of production need further refinement. The nonhomogeneity of the indicators in use and their differing orientations do not currently allow us to determine the effectiveness of introducing the measures of the retooling and renovation plan by enterprise group and do not always facilitate comparative analysis of the effectiveness of using new equipment in an association, branch or national economy.

The intensiveness of updating means of labor has risen in Ukrainian SSR industry in recent years and the ratio of fixed assets increment to withdrawal has decreased. However, withdrawal is still considerably below normative.

In the course of shaping the draft plans and programs, the ministries and departments should create for their own enterprises conditions for a maximum concentration of manpower and funds on updating, foremost of the active portion of the fixed assets; on using progressive methods of organizing production retooling and renovation work. In this connection, they need to work out standard branch methods documents based on the methods instructions approved by the USSR Gosplan, with consideration of their own specifics and features, on a unified methods basis, and quickly. The ministry and department retooling plans are generally not comparable at present. Thus, the retooling plan for existing enterprises of the USSR Ministry of Machinebuilding for Light and Food Industry and Household Appliances consists of 15 sections, including ones such as "scientific labor organization," "worker training and skill improvement" and "planning." The retooling plan for enterprises of machine tool manufacturing and tool-making industry includes 37 different areas. The situation is similar in other ministries and departments as well.

A variety of subdivisions in the branch ministries and departments are involved with retooling and renovation questions. It would therefore be appropriate to delineate in them specialized subdivisions performing the entire work complex, from plan development to introduction, enlisting, when necessary, the branch technological planning institutes concerned with these particular problems.

In connection with the new enterprise renovation and retooling requirements, important tasks also face planning and financial agencies such as the UkrSSR Gosplan, UkrSSR Ministry of Finance, republic offices of the USSR Gosbank and Stroybank and USSR State Committee for Labor and Social Problems. They are called upon to carefully analyze the state of affairs locally, to ensure the economic interest of construction collectives in renovation and retooling, and to work out, based on the above-mentioned general Methods Instructions approved by the USSR Gosplan, clear instructions taking into account the specifics and features in the production branches, as well as organizing the resolution of problems and monitoring implementation of those decisions.

We evidently also need to create in the republic a special scientific-methods agency to develop methods support, coordination and monitoring for all work involving the compilation of retooling and renovation plans and programs on a unified methods basis, re-orienting one existing organization with experience in such work for this purpose. In this republic, the Ukrainian Branch of the Scientific Research Institute of Planning and Normatives attached to the USSR Gosplan, which has experience in developing appropriate methods documents and personnel, could be such an agency.

Thus, the task of improving the mechanism for retooling and renovating existing enterprises should be resolved only comprehensively, as is anticipated by the resolutions of the April (1985) CPSU Central Committee Plenum, the June (1985) CPSU Central Committee meeting on questions of accelerating scientific-technical progress, and the well-known CPSU Central Committee and USSR Council of Ministers Decree "On Steps to Accelerate Scientific-Technical Progress in the National Economy." It is only such an approach which will enable us to achieve success in updating fixed assets on the basis of the large-scale introduction of new equipment and to reduce the time involved in introducing new equipment into existing production.

Retooling Investment Results Stressed

Moscow PLANOVOYE KHOZYAYSTVO in Russian No 1, Jan 86 pp 79-89

[Article by Doctor of Economic Sciences and Professor Z. Korovina: "Retooling Enterprises: Planning, Evaluation, Incentives"]

[Text] Accelerating scientific and technical progress by every means possible is the key political and economic task. The draft "Basic Directions of USSR Economic and Social Development in 1986-1990 and Up To 2000" advances the demand that we decisively increase the role of science and engineering in the qualitative transformation of productive forces, in changing the economy over to tracks of comprehensive intensification, of increasing the effectiveness of social production.

The primary production link, the industrial enterprise or association, is of particular importance in actualizing this demand. It is at precisely this level that the complex, expensive process of developing, manufacturing and using fundamentally new and improved equipment is completed. Society obtains real results, rather than the hypothetical or anticipated results of the preceding stages, from the enormous expenditures of the whole "science - engineering - production" cycle at this point.

However, enterprise activity is presently oriented inadequately towards accelerating scientific-technical progresss. Updating is often done on an extensive basis, and the expenditures connected with technical development [1] not only fail to provide the appropriate return, but often lead to reduced production effectiveness.

The economic experiment in industry has thus far not had the proper impact on accelerating scientific-technical progress. The reason is not so much the brief time available for verification or the brief time the normatives have been established for as it is inclusion in the experiment of questions of

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[1] These expenditures include: retooling, renovation, expansion, introduction of scientific-technical measures, maintenance of capacities, scientific research and experimental design, invention and efficiency proposals.

secondary importance, and in particular, certain changes in the formation and use of the production development fund and YeFRNT [unified science and technology development fund].

Enterprises generally do not lack funds to finance the introduction of new equipment. More often, they are not provided with material resources, due foremost to the shortage of progressive, reliable, economical machines and equipment. The negative trends in scientific-technical progress result basically from the low effectiveness of the significant expenditures on updating production.

An analysis of technical development of enterprises of machinebuilding, ferrous metallurgy, mineral fertilizer production, chemical and coal industry, shows the following. Over a nine year period [1], the increment in value of fixed assets due to retooling, expansion and renovation was 40-83 percent at a majority (75 percent) of the enterprises, while marketing increased by only 5-25 percent, with a 36-50 percent reduction in labor productivity and production profitability at the enterprises studied. For example, the average annual value of fixed assets at the "Azovstal" metallurgical combine in Chadanovsk had increased by 79.6 percent in 1983 as against 1975, but marketing volume had risen by only 10.7 percent. Profit decreased by 54.4 percent, labor productivity by 4.8 percent and production profitability by 75 percent. In this regard, consideration should be given to the fact that expenditures on technical development at a majority (80 percent) of the enterprises exceeded the value of fixed assets at the start of the period studied and the value of new fixed assets 1.2- to two-fold or more. The financial resources being allocated by enterprises from centralized and noncentralized sources of financing are adequate for fully updating production assets.

As the data show, the inadequate return on technical development expenditures results primarily from the long periods involved in utilizing them and the tremendous operating losses at new shops and technological lines introduced as a consequence of retooling, renovation and expansion, as well as the poor actual effectiveness of scientific-technical measures. All this often occurs due to poor-quality planning and construction-installation work miscalculations in technology and in machinery design, due to the introduction of obsolescent and unreliable equipment and to the incomplete start-up of new shops with less than a full technological cycle, that is, without auxiliary or servicing shops.

Thus, the shortcomings are economical, technical and organizational. The most important among these are the poor, and sometimes negative, influence of economic levers and incentives on increasing volumes and improving the effectiveness of introducing new equipment. The methods used to plan, evaluate and stimulate both the introduction of new equipment and all industrial enterprise activity, as well as the activity of scientific research, planning and construction-installation organizations, lag behind the present level of development of productive forces and do not create economic conditions for accelerating scientific-technical progress.

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[1] A return on technical development expenditures occurs only during the third to fourth year after introducing the measures, which is why a long (nine-year) period was adopted, to permit evaluating actual expenditure effectiveness over nearly 10 years.

"Accelerating scientific-technical progress," CPSU Central Committee General Secretary M. S. Gorbachev has noted, "insistently demands a deep restructuring of the planning and management system, of the entire economic mechanism.... Serious political and practical conclusions can be drawn from the experience of the past, and no time should be lost in shifting to the creation of a highly effective planning and management system." [1]

We first of all need to develop a comprehensive plan and summary report on enterprise technical development. Its essence would be a shift from selective, isolated planning and statistical reporting of scattered new-equipment measures, as is currently done, to comprehensive planning, recording and evaluating of all equipment being introduced and of all expenditures associated with scientific-technical progress.

Previously, industrial enterprises worked out a plan of organizational-technical measures which, on shop worker initiative, included individual small assignments to be carried out at the expense of product net cost. Capital construction was done basically extensively and was planned and evaluated [priced] based on volumetric, quantitative indicators. Actual expenditure effectiveness was not recorded.

With production intensification, the requirements made of both organizational-technical measures and capital construction have changed. They must be done based on fundamentally new and improved equipment and must be the main source for increasing production effectiveness.

But no such reorientation has occurred in planning and statistical reporting. The organizational-technical measures plan has only been renamed; its content has not been changed significantly. It is called different things at different enterprises: new-equipment plan, technical development plan, technical progress plan, retooling plan. Statistical reporting is also done only for scientific-technical measures. A significant proportion (40 percent or more) of the measures in the plans and reports are organizational. In content, they represent individual stages of work on introducing progressive technology, on production mechanization and automation, on mastering the production of new items, and they are implemented using special incentives funds or at the expense of product net cost. Such measures are characterized by short lead times and inconsequential expenditures and impacts, with the exception of those instances when large new units and machines are created in existing shops at machinebuilding enterprises.

The plans and reports do not include individual types of equipment if they are acquired and installed using capital construction funds. At many enterprises, expenditures on machinery acquisition and installation are considerable, but they are new-equipment measures in terms of content. Retooling, renovation and expansion done basically through capital investment, as before, are not reflected in the technical development plans and reports and are considered

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[1] M. S. Gorbachev, "The Fundamental Question of Party Economic Policy," report at the CPSU Central Committee Conference of 11 June 1985 on Problems of Accelerating Scientific-Technical Progress, Moscow, Politizdat, pp 22-23.

independently, in terms of volume and quantity indicators (amount of capital investment, value of assets being introduced, and others).

At the same time, accelerating scientific-technical progress depends not on scattered scientific-technical measures as presently planned and carried out. It will result from the creation of new shops, sectors and technological lines on the basis of retooling (large-scale replacement of old equipment with fundamentally new, more-productive and more-economical equipment), renovation and expansion of production.

Research has shown that the preponderance of the material resources stocks and funds for financing technical development (70-93 percent) is connected with capital construction. Only in machinebuilding is the proportion of these expenditures lower, 54-76 percent, basically because of the significant proportion of the expenditures on scientific research and experimental design (14-34 percent). Scientific-technical measures, though, do not exceed 20 percent of expenditures, even at machinebuilding enterprises, and are only 1-5 percent in the other branches of industry; the plans and reporting for such measures are wrongly considered identical to the overall technical development plan.

Planning and evaluating technical development based on individual measures and work stages does considerable harm, especially in machinebuilding. In other words, an appearance of technical progress is created. In such a situation, attention is focused not on the main directions of technical development -- retooling, renovation, expansion -- but on a collection of many small, disjointed measures having no substantial impact on technical improvements in production or on improving production efficiency.

There have recently been some partial supplements to planning new equipment, but they have not eliminated the main shortcomings of the present system. In particular, the "Methods Instructions on Developing Plans for Retooling Existing Production Associations (Combines) and Enterprises" anticipate the compilation of five-year and annual retooling plans. These are to include assignments included in the plans and reports currently being compiled and also new assignments on replacing obsolescent and worn out equipment with new and more-productive equipment, on improving subsidiary and service facilities, on installing additional machinery and equipment in existing production space.

The proposed retooling plan forms duplicate existing scientific-technical measures plans and statistical reporting to a large extent. In this regard, repeat calculation increases even more, with the impact and expenditures on a number of efficiency proposals and on capital construction being included in the statistical reporting on scientific-technical measures (form No 10-nt), on efficiency proposals and invention (form No 4-nt) and on capital construction (form No 2-ks).

The current stage of economic development requires a shift from partial and selective replacement of individual machines and technologies, automation and mechanization equipment, to comprehensive technological systems, to retooling entire shops and enterprises based on newer-generation equipment and production process automation. It was noted at the April (1985) CPSU Central Committee Plenum that: "Revolutionary advances are required, a shift to fundamentally

new technological systems, to latest-generation equipment providing the greatest effectiveness. The reference is essentially to re-arming all branches of the national economy on the basis of modern scientific and technical achievements."[1]

The enterprise technical development plans and reports should therefore include not only scattered scientific-technical measures and work stages, but all equipment being introduced along the following lines: retooling (large-scale replacement of existing equipment, technology updating), renovation and expansion, NIOKR [research and development], efficiency proposals and invention.

Due to their relative individual unimportance, it is appropriate to combine the huge products list of scientific-technical measures currently being planned and recorded into two directions: use of new equipment in manufacturing plant shops and manufacture of new equipment for shipment to customers. This is justified by the fact that the first direction will always yield an increment in output volume at the enterprise and a reduction in net cost. But the impact of machinery produced for other plants must be distributed between manufacturer and consumer, which requires a better system of price-formation for new equipment. If, for example, the power of a new rolling mill is doubled, then there is no way the wholesale-release price should increase five-fold, as often happens.

We need to eliminate the common practice of setting inflated prices for new equipment (relative to its consumer features). New machinery is not needed as an end in itself, but to increase production efficiency. Consequently, the price per unit of consumer features of new items must be lower than the price of old items.

It would be appripriate the plan and record each new facility introduced on a base of retooling, renovation and expansion independently, so as to monitor the long time frames involved and the huge development ["mastering"] losses.

Plans and reports must include the introduction not only of equipment based on new technical principles, but also of equipment which is new only in terms of manufacturing and application schedules. It accounts for 60-70 percent or more of all expenditures on introduction at a number of enterprises. The release and use of these items result both from the slow restructuring of enterprises to produce fundamentally new equipment and the absence of the latter and from the comparatively high proportion of obsolete equipment which has been in service for a long time. Thus, at the start of the current five-year plan, 26.3 percent of the machine tools at the Donetsk Machinebuilding Plant imeni LKU had been in service for more than 20 years, and the figure was 32.6 percent as of 1 January 1985. In view of the difficulty of operating such equipment and the high maintenance expenditures, it is to the plant's advantage to obtain new equipment, even if it is only equally powerful and economical. In order to create economic conditions for reducing the proportion of equipment which is new only in terms of date of manufacture, we need to institute planning, recording and monitoring of the amounts introduced and of their effectiveness.

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[1] "Materialy Plenuma Tsentralnogo Komiteta KPSS, 23 aprelya 1985 g." [Materials of the 23 April 1985 CPSU Central Committee Plenum], Moscow, Politizdat, 1985, p 10.

The development of a comprehensive plan and summary reporting for all equipment being introduced (with the preparation of a single summary form) will permit elimination of the scattering of technical development funds, repeat calculation and double bonuses for the exact same impact, and it will create an opportunity for effective management and monitoring of the effectiveness of the huge production updating expenditures to ensure the introduction of truly progressive equipment.

Along with this, we need to organize long-term new-equipment planning and evaluation and the use of improved methods of financing its introduction. We need to work out long-range enterprise technical development plans for five-, 10- and 15-year periods and to record and monitor the results of introducing new equipment not over a single year, as is done now, but over at least 3-5 years of its operation.

The annual plans are the basic form of planning and statistical reporting for the full list of new-equipment measures. The five-year plans include primarily volume indicators dealing with expenditures and impacts, but the list of measures is not indicated, even in primary documents. Annual and five-year plans are drawn up for capital investments, but the statistical reporting is based on the results for each year, primarily using volume indicators.

Proposals by ministries, associations, scientific research institutes and the enterprises themselves, that is, initiative measures whose introduction is prompted by production requirements, serve as the initial base for shaping the new-equipment annual plan. Centralized funds from the unified science and technology development fund are allocated for this set of measures. The initiative measures are implemented using current expenditures (through net cost). Renovation and expansion are done only by decision of superior economic agencies (industrial associations and ministries), generally with the appropriate allocation of budget funds for the capital construction of specific projects. Retooling is rarely done, in spite of the fact that expenditures on this line regularly are shown as 1-20 percent of technical development funds in the capital construction statistical reporting (form No 2-ks).

If expenditures on scientific-technical measures at each enterprise are more or less identical by year but differ by plant, even within one industrial association, then the capital investments are spasmodic in nature. They differ greatly within one enterprise and at the plants of one branch of industry, by year and by five-year plan.

For example, over a nine-year period from 1975 through 1983, a total of 67.3 percent of the value of the fixed production assets at the "Azovstal" metallurgical combine imeni S. Ordzhonikidze in Zhdanovsk was spent on capital construction, while only 16.8 percent was spent at the Makyevka Metallurgical Plant imeni S. M. Kirov. The "Azovstal" combine was allocated 5.8 times as many funds as the Makeyevks plan, in spite of the fact that the equipment was more worn at the latter than at the former. Incidentally, the Zhdanovsk plant failed to cope with utilizing this enormous amount of fixed production assets it introduced.

In the economic experiment, reliance is placed on retooling using one's own funds, for which purpose the procedure for forming the production development fund and the YeFRNT has been changed. It is proposed that they be created using a normative in percentages of volume marketed and total profit. Thus, the "Azovstal" combine, which had three times the fixed production assets and 1.6 times the marketing volume in comparison with the Makeyevka plant, would receive 1.6 times the funds, in spite of the fact that the worn equipment at the latter requires immediate, top-priority replacement and it will consequently need corresponding financial funds.

It is therefore appropriate to work out long-range technical development plans broken down by year and determining sources of financing based on the requirements of each enterprise and association for new equipment and the opportunities for meeting those requirements. Consequently, accurate determination of such requirements long-term and by year, with consideration of the equipment available, its time in service and the necessity of expanding production, is important. Equipment with a service life of 15-20 years is subject to immediate replacement, which will be anticipated in the technical development plan. Prior to approving a long-range plan broken down by year, the possibility of releasing fundamentally new and improved equipment at the manufacturing enterprises must be revealed. The latter are obligated to reflect its creation and mass production in their long-range plans. And it becomes appropriate to establish the amoung of a unified fund for financing technical development only after determining the new equipment requirements and the opportunities for satisfying them. It can be formed through depreciation, from receipts from the sale or surplus or unneeded equipment, from profit, from the budget, and so on. However, in order to interest the enterprise in using its own funds for technical development, it is important that a substantial payment be made for budget allocations and for bank loans for such purposes (up to 15 percent).

Given the increasing independence of production collectives, it is appropriate to concentrate all technical development funds in a single fund at the enterprise itself. It, better than any other economic organ, knows the most effective ways for it to introduce new equipment, its own machinery and machine tool requirements, and the effectiveness of implementing research and development done by scientific institutes. Superior management agencies must not substitute themselves for enterprise collectives in forming and distributing funds, but must effectively monitor the use of budget allocations and the actual return (effectiveness) on every ruble spent for technical development.

We also need to change the schedules for recording and statistical reporting on new equipment. Equipment being introduced is recorded as new basically for one year, that is, for the year in which it is introduced. That period has now been increased to two years. However, research has shown that a majority of the new shops incur significant losses both in the year they are started up and in the second year, rather than showing an increment in profit, since the planned technical-economic indicators are being mastered. This is in some measure an objective process, that is, within normative time periods.

K. Marx noted, "For example, no matter how perfect the design of a machine is in the production process, shortcomings are discovered in its practical use

which must be corrected by additional labor."[1] What can be said about individual machines is equally important with regard to machine complexes.

This must be a consideration when preparing reports. The normative periods for mastering new projects are generally 6-18 months, but the actual periods exceed the normative 1.5- to three-fold. Therefore, to set up monitoring of the effectiveness and actual time involved in mastering new shops, records must be kept on them for at least three, preferably five, years, including the start-up year. Such record-keeping should not be burdensome, since the number of shops introduced through retooling and expansion is small (1-2 facilities per year).

When large new machines are manufactured at machinebuilding enterprises, only mastering of the first industrial series is included in the statistical reporting. As soon as the item has been mastered and transferred to series production, it is no longer "new" for the enterprise and is reflected in reports on scientific-technical measures. However, it is precisely the series release of new equipment which is called upon to meet requirements for it, only this which is capable of an appreciable impact on the technical development of enterprises and increasing the effectiveness of innovations and of all industrial production. It is therefore necessary to plan and record indicators of the series mastering of new machinery over a period of five years, that is, just as for new shops.

It seems appropriate to create a system of recording and planning the actual results and effectiveness of all lines and types of equipment being introduced. The existing system of planning, recording and statistical reporting reflects the hypothetical, anticipated impact and intermediate results only of introducing scientific-technical measures, efficiency proposals and inventions. But it is necessary to plan and record the actual impact and end results obtained from all lines of enterprise technical development.

At present, the plan and statistical reporting forms for scientific-technical measures and efficiency proposals and inventions include a broad aggregate of indicators (several dozen) which basically describe their numbers and partial or intermediate results.

A considerable number of indicators are also planned and recorded for new shops put into operation on the basis of retooling, renovation and expansion. These are, foremost, volume of capital investment, start-up of fixed assets and capacities, and economic indicators for individual facilities being renovated and put into operation. The calendar schedule for releasing facilities for operation is the centrally-planned indicator for new shops. It is monitored by superiod agencies and construction-installation organizations are materially interested in seeing to it that this schedule is met.

The release of projects on schedule is often achieved by lowering the quality of construction-installation work and by incomplete start-ups, that is, starting up facilities with less than a complete technological cycle, without auxiliary and service shops or with large amounts of unfinished work. Such facilities

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[1] K. Marx and F. Engels, "Soch." [Works], Vol 24, p 196.

must produce much less output than is anticipated by the plan for long periods and incur significant losses.

Substantial difficulties arise when operating these facilities. However, those operating them accept them only partially finished not just under pressure from superior organizations, but also because they are confident of obtaining understated plan assignments. There is no separate system for planning, evaluating and stimulating new production facilities at an enterprise and, in general, plan indicators involving output volume, net cost, profit and labor productivity are established for it by adding understated indicators for the new shops which take into account the incomplete start-up of substandard facilities and their relative inefficiency.

It is due in considerable measure to this that expenditures on technical development and the rates of growth in assets value sharply outstrip the growth in marketed volume, profit, labor productivity and profitability of production. As a result, we fail to see the proper return on capital investment, and the achievements of science and engineering are mastered unacceptably slowly.

In order to create economic conditions for increasing the actual effectiveness of all expenditures on technical development and for introducing progressive equipment, we need to anticipate (in the plans), take into account, evaluate and stimulate the actual, real increment in the indicators, and foremost in the amounts of output and profit obtained through the introduction of all new equipment along the above-indicated lines.

The actual impact of implementing each scientific-technical measure, efficiency proposal and invention just be calculated with consideration of the reduction in expenditures of raw and other materials, energy, fuel, wages and overheads. These calculations can be verified by comparing the increment in profit obtained for all the measures and proposals with the actual increment for the shops and the enterprise as a whole.

For new shops put into operation on the basis of retooling, renovation and expansion, it is appropriate to plan and take into account the actual times involved in and rates of mastering and the profit or loss over a period of five calendar years, including the year of start-up, and to compare the level achieved, by year, with the planned indicators. The system of planning and evaluating new shops needs to be oriented towards reducing actual mastering time and actual losses. Under such conditions, the established practice (habit) of accepting for operation facilities which are incomplete or which have unfinished work would turn out to be disadvantageous to the enterprise collective. Planning, recording and awarding bonuses for actual impact of the introduction of all new equipment would increase material interest in developing highly effective, major innovations and would reduce the number of small, scattered measures. Moreover, it would make the expanded work of economists to shape new methods of calculating hypothetical annual economic impacts and savings from the introduction of new equipment unnecessary. As we know, such calculations are made prior to the start of operation and do not take into account the long periods involved in mastering or the significant losses involved in it.

The most important task is to organize the awarding of bonuses for reducing the time involved in mastering new shops and for actual impact from introducing scientific-technical measures, efficiency proposals and inventions. The reference is to a system of awarding bonuses for reaching planned indicators (net cost and output volume) at new shops, that is, the actual economic impact, on or ahead of schedule.

The bulk of the new equipment is, as has already been noted, introduced by putting new shops into operation on the basis of retooling renovation and expansion. Due to the long mastering times, the enterprise and the national economy fail to receive large amounts of output and incur substantial losses. However, the collectives of these shops are not awarded bonuses for reducing this mastering time or for increasing the effectiveness of the new production facilities. Immediately after being accepted for operation, the new shops are included among existing production facilities, and their work and the awarding of bonuses are evaluated based on general cost-accounting indicators, that is, "common-pot," or enterprise-wide. Specialists thus obtain bonuses for long mastering time periods and when the concomitant losses are huge.

For example, the Donetsk Metallurgical Plant imeni V. I. Lenin was obtaining good profits and was considered a leading enterprise prior to start-up of the new electric steel smelting shop. After this shop was put into operation, the plant started operating at a planned loss and in fact had significant losses for four years. However, the plant collective continued to receive bonuses, by redistributing the material incentives funds of other enterprises. This is one of the important reasons for the long mastering periods and high losses.

In order to reduce time and losses at new shops and, on this basis, to increase the effectiveness of expenditures on technical development, it is appropriate to award their collectives bonuses separately from existing collectives under the same provision, that is, for mastering planned net cost on or ahead of schedule, on the condition that normative schedules and rates of mastering planned capacities are followed. It would seem appropriate to pay the bonus once a quarter, in an amount of 60 percent of the shop wage fund (actual average amount of bonuses at existing enterprises), with an additional payment for each percentage point reduction in mastering time, depending on amount of additional profit obtained. It is important to calculate the planned net cost by quarter based on the planned net cost of each type of item, adjusted for the rates of mastering of planned capacity by quarter, on the basis of normative schedules, composition of the start-up complex and volume of output released. In order to increase the material interest of enterprise leaders in reducing time and losses, it is appropriate to make up 30-50 percent of their bonuses as a function of mastering the planned net cost of the new shops on or ahead of schedule. Such a system of awarding bonuses would permit creation of the economic prerequisites for refusing to accept facilities not ready for normal operation.

Currently, the amounts of bonuses for introducing scientific-technical measures at existing shops and authorship awards to efficiency specialists and inventors are determined as a function of the annual economic impact and the savings as calculated using an adjusted expenditures formula. The impact is established either by specialists at the scientific research institute offering the plant

a particular measure for implementation or right after completion of work on its introduction. The bonus is paid after a document [certifying] introduction has been drawn up. The authorship award is paid to efficiency specialists for the calculated savings a month after the proposal has been accepted.

A check has shown that the annual impact and the savings reflected in the statistical reporting forms and the introduction documents generally exceed not only the size of the actual impact for each measure, but also the entire increment in profit for the enterprise as a whole. This results both from the material interest of the collectives in a high impact and from the use from the use of unreliable initial data for the calculations, as well as from the fact that the impact is calculated and the bonus is paid prior to the start of operation of the new equipment, when it is still unknown what the effect will actually be. In order to create interest in high actual effectiveness from the introduction of measures and proposals, it is appropriate to award bonuses for the increment in actual profit obtained after their implementation, over the period in which that increment occurs (most often three years).

We need an integral combination of technical development plans (reports) and the state plan (report) for the enterprise as a whole. It is very important that the shaping and fulfillment of the latter become possible given the effective introduction of new equipment into production, and foremost the prompt and effective start-up and mastering of new shops on the basis of retooling, renovation and expansion.

At present, enterprises have no summary new-equipment plans, with individual lines of introduction being scattered among various sections of the annual and five-year plans. Moreover, the activity of the enterprise as a whole and of the individual lines of new-equipment introduction are planned, evaluated and stimulated in various ways, using various systems of indicators.

M. S. Gorbachev stressed at a CPSU Central Committee meeting on questions of accelerating scientific-technical progress: "It is time, for example, to change the situation in which a new-equipment plan exists in isolation, with no determining influence on indicators of economic and social development. To the contrary, it must become a load-bearing component in the national economic plan as a whole."[1]

n order to transform the new-equipment plan into an organic, integral component of the state plan, we need first to develop a summary plan and to use those same indicators for planning and evaluating the effectiveness of indicators as are used for the enterprise as a whole. Second, it is appropriate to make the technical development plan the first section of the enterprise annual and five-year plans, constructing it of the current third (scientific-technical measures) and fifth (capital investment and capital construction) sections. This section would be called upon to be the basic section, the one from which all other sections would be developed. Third, we require annual (plan and reporting) quantitative evaluations of the influence of all equipment being introduced on the

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[1] M. S. Gorbachev, "Korennoy vopros ekonomicheskoy politiki partii" [The Fundamental Question of Party Economic Policy], p 24.

main final indicators of enterprise activity. To do this, we have worked out and verified under production conditions methods of quantitatively evaluating this influence on the enterprise economy and the formulas for calculating it.[1] The most important evaluation indicators are those of the proportion of new equipment in output volume, net cost and profit.

Such an evaluation will permit close interlinking of the indicators of technical development with the indicators of enterprise activity as a whole. In this regard, the latter must consist of components. One describes the expenditures on, results and effectiveness of the new equipment; the other describes the expenditures on and effectiveness of current production.

If the proportion in expenditures is several times higher than that in results, immediate measures must be adopted to improve the situation and solve the problem of continuing to allocate funds for technical development to that particular plant. At present, enterprises not providing a return on expenditures on new equipment continue to receive budget allocations for capital construction. It would seem appropriate to call on superior economic agencies to monitor not the number of measures and proposals costing 5,000 to 10,000 rubles, but the actual return on all the millions and billions in expenditures on technical development.

It would be appropriate to create at industrial enterprises special serviced for introducing new equipment which would ensure high rates and effectiveness of expenditures on technical development.

The duties of specialists in the technical development services must include revealing progressive scientific-technical achievements, determining new-equipment requirements over the long term and the ways and opportunities for satisfying them, developing long-range and annual plans, formulating the size of funds for financing and the sources to cover them, by year, drawing up orders for the manufacture of new equipment, accepting it and organizing its introduction, preparing reports, establishing the actual effectiveness of expenditures on technical development, and setting up the awarding of bonuses.

Inasmuch as the process of introducing new equipment must be continuous and significant in scope, it is appropriate to do the retooling and renovation (excluding the construction of buildings) with one's own forces (the direct-labor method), as is done when introducing scientific-technical measures. To do this, the enterprises will need corresponding subdivisions for equipment installation, assembly and disassembly, to do start-up and adjustment work, and so forth, and must be allocated the appropriate material resources.

Reducing the amount of paper information about individual measures and thus freeing specialists from preparing the enormous number of plan and statistical report forms, summaries and tables, and focusing their attention on engineering work concerning organizing the introduction of new equipment is of important significance. Instead of the considerable number of indicators and forms for plan and statistical reporting on each of a huge number of small, disjointed measures, it would be appropriate to plan and take into account only all the

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[1] See: VOPROSY EKONOMIKI, No 2, 1978, pp 115-122.

expenditures and end results in the form of increment in marketed volume and total profit for all new equipment and its main directions. The other intermediate results and partial indicators (list of individual measures, expenditures and hypothetical impact of each, and so on) must be subjects of intraplant planning and recording, since effective monitoring from above of the millions of measures being introduced into production is impossible. We need to monitor the end results of introducing all new equipment. Instead of several dozen plan and statistical reporting forms, it is appropriate to introduce a single combined form for planning and reporting. It is important to pay special attention to the reliability of the data, inasmuch as statistical reporting indicators for individual lines of technical development have not, in a number of instances, reflected the actual state of affairs.

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RESOURCE UTILIZATION AND SUPPLY

INSTRUCTIONS FOR 12TH FIVE-YEAR PLAN DELIVERY CONTRACTS

Moscow EKONOMICHESKAYA GAZETA in Russian No 43, Oct 85 pp 17-18

[USSR Gossnab and Gosarbitrazh instructions for drafting delivery contracts in 12th Five-Year Plan]

[Text] USSR Gossnab and USSR Gosarbitrazh have approved the "Methodological Instructions for Organizing the Work in Concluding Economic Contracts for the Delivery of Production and Technical Products During the 12th Five-Year Plan" which text is published below.

1. Ministries, departments, associations, enterprises, and organizations* must regard the conclusion of economic contracts for the delivery of production and technical products during the 12th Five-Year Plan as an important organizational and economic measure aimed at insuring the successful fulfillment of the state plan for the country's economic and social development, the intensification and raising of production efficiency, and the broader use of enterprise and organization initiative and activity in solving economic questions.

When performing this work, it is necessary to proceed from the directives of the April 1985 CPSU Central Committee Plenum, the results of the meeting in the CPSU Central Committee on questions concerning scientific and technical progress, and Decree No 669 of the CPSU Central Committee and the USSR Council of Ministers dated 12 July 1985 and entitled "On the Broad Dissemination of the New Management Methods and the Strengthening of Their Influence on the Acceleration of Scientific and Technical Progress."

2. The organizational work in concluding economic contracts should be aimed at:

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*Associations, enterprises and organizations will be called "enterprises and organizations" from now on.

Insuring the timely formation of contract relationships for the delivery of products in the full amount provided for by the plan, the creating of conditions for the appropriate preparation of enterprises and organizations for the production and delivery of products that are required by the customer, the most effective use of production potentials in order to satisfy the national economy's requirements;

Strengthening the influence of the consumers on the formation of plans for the production of products on the list (assortment);

Actively using economic and legal resources to improve product quality through the widespread use of scientific and technical achievements;

Insuring a consistent pursuit of a savings regime during the production, delivery and use of material resources; introducing rational ways to fulfill obligations;

Further strengthening state planning and contract discipline and costaccounting principles; increasing the responsibility of enterprises and organizations for the fulfillment of state plans and contract commitments;

Raising the responsibility of management bodies of industry and other branches of the national economy for the accurate organization of economic ties; obsering socialist laws in the economic sphere.

3. In order to further strengthen the cooperation of enterprises and organizations and expand their independence, the work to develop and improve direct long-term and long-term economic ties for the delivery of products must be continued.

When organizing these ties during the coming five-year plan, it is necessary to insure:

The maintenance of the economically sound and stable economic ties which were in effect during the 11th Five-Year Plan between suppliers and customers;

The further expansion of effective direct long-term and long-term economic ties between enterprises and organizations with a stable product production and consumption;

The carrying out of a complex approach to the shift of enterprises and consumer organizations to direct long-term ties for the main types of products consumed by them.

4. As the main form of economic ties for the delivery of products, it is necessary to use a long-term contract that is concluded for the entire period of the five-year plan for economic and social development, that insures the stability of economic relationships, and that expands the capabilities of the suppliers and buyers when solving questions concerning production and economic activity in the future.

Contracts for the five-year period are concluded:

When there are direct long-term and long-term economic ties based on attachment plans issued in the prescribed manner;

When the guaranteed complex supplying of consumers based on contracts for organizing logistics are being implemented by the territorial organs of the USSR Gossnab system;

When there are actually formed long-term economic ties between suppliers and buyers based on annually issued orders.

In the concluded contracts, the suppliers and customers must determine the mutual commitments which provide for strengthening the contract's influence on the planning of production and the delivery of products (in particular, establish the procedures and periods for submissions by the customers and the coordination of orders for products on the expanded nomenclature list), the continuity and steadiness of supply, etc. Special attention must be paid to increasing product quality, expanding and updating the variety of goods, accelerating the use of the accomplishments of scientific and technical progress, and expending material and labor resources in an economical manner. Conditions must be provided which insure a flexible reaction on the part of the suppliers to the national economy's changing needs for products. When concluding long-term contracts, one must be guided by the model contracts that have been approved by the USSR Gossnab and the USSR Gosarbitrazh.

In accordance with the USSR law "On Labor Collectives and Increasing Their Role in the Management of Enterprises, Establishments and Organizations," it is necessary to involve collectives in the work on questions concerning the long-range cooperation of enterprises and organizations on a contract basis more broadly, in the development of optimum conditions for this cooperation, and in the solving of the tasks involved in the effective use of production capacities and capabilities for a fuller satisfaction of the customers' needs and the achievement of high economic work indicators; it is necessary to mobilize labor collectives for the timely and qualitative fulfillment of the concluded contracts.

When planning the production and delivery of products, ministries, departments and other economic management bodies should not tolerate restrictions on the rights of enterprises and unnecessary regulation of their activity.

5. In order to insure the timely formation of contract relationships regarding product deliveries, ministries, departments, and USSR Gossnab main administrations for supply and sales and territorial bodies in the USSR Gossnab system must strictly observe the periods that have been established by the laws in effect for relaying the planning targets to the executors, attaching customers to suppliers and issuing planning acts for product deliveries to them.

The USSR Gossnab main administrations for supply and sales as well as the ministries and departments, who are distributing the appropriate types of products to the holders of funds, must improve their monitoring of the timely passing of funds to the consumers and their attachment to the suppliers. When individual holders of capital refuse part of the allotted funds and also when they are not distributed in the time prescribed by law (when there remains an undistributed reserve in an amount that exceeds the maximum amount prescribed by law), it is necessary to examine and solve in the prescribed manner the question of decreasing the funds and redistributing the appropriate resources among other holders of capital.

With the issuance of planning acts for the delivery of products (orders, requisitions), USSR Gossnab main administrations for supply and sales, the territorial bodies in the USSR Gossnab system, ministries, and departments must be strictly guided by the prescribed minimum dispatch norms, keeping in mind that only those users, to whom products are sent in an amount no less than the minimum dispatch norms, and those users, who enjoy the right to receive products in non-transit amounts from the manufacturers, can be directly attached to manufacturing enterprises. The delivery of products to customers in other cases should be planned and carried out through the appropriate supply and sales organizations.

6. In accordance with the product list plans (the protocols for dispatching production), ministries, departments and USSR Gossnab main administrations for supply and sales should be more active in resolving questions concerning the expansion of the production of the more advanced and economic types of products that enjoy demand among the consumers, and they should not tolerate the production of obsolescent products which are excessively material-intensive and which are not in demand. The USSR Gossnab main administrations for supply and sales should not issue orders for the delivery of low quality and obsolete products that are subject to being withdrawn from production.

Ministries, departments, enterprises, and consumer organizations should increase the level of their preliminary studying of the requisitions and orders for products, which have been presented, keeping in mind that it is necessary to prevent cases, where the requirement for material resources is increased, and the rejection of manufactured products and the repudiation of the concluded contracts in connection with this. Special attention should be paid to the careful study of the production forms and records (technical designs) on whose basis products, which correspond to modern scientific and technical requirements, are ordered.

Enterprises and consumer organizations must insure the timely submission of specifications and the other technical documentation, which is required to conclude contracts, to the supplier.

7. Supplier enterprises must insure the conclusion of contracts for the entire amount of products that is prescribed by the issued planning delivery acts in the prescribed manner.

In the event of an incomplete delivery of products under the contract based on the issued planning acts (in connection with the customers' rejection of manufactured items, the untimely issuance of authorizations by the holders of capital, etc.), the suppliers should inform the appropriate USSR Gossnab main administrations of supply and sales or the other bodies, which are distributing this product and attaching customers to suppliers, about this before the beginning of the delivery period (quarter) with an indication of the amount of product whose delivery has not been concluded in the contracts and the reasons for the failure to formulate it. Upon receipt of this information, the above-mentioned bodies should examine and solve in an efficient manner the question of an additional amount of production work and the issuance of planning acts for the delivery of products to other buyers-- and when their is a lack of need for this product -- its withdrawal from production in the established manner and the organization of the production of items required by the national economy.

8. In order to satisfy more fully the consumers' needs for products required by them and to strengthen the influence of the consumers and the supply and sales organizations on the formation of product production plans with respect to production lists (assortment), USSR ministries and departments should complete the development in a very short time and approve in the prescribed manner the lists of products, which are subject to manufacturing and delivery, for the enterprises and manufacturing organizations subordinate to them. In accordance with the Statute on Production and Technical Product Deliveries, the parties should be guided by them when concluding contracts. The product list (assortment) should be defined in the lists with a degree of detail which insures that the buyer will have an opportunity to select and order the required items. When necessary, USSR ministries and departments must make changes and additions to earlier published lists taking into account the expansion and updating of the product assortment that is subject to production and delivery during the 12th Five-Year Plan. The USSR Gossnab main administrations for supply and sales should take an active part in this work. USSR ministries and departments should insure the relaying of the approved lists of products to enterprises and organizations.

In accordance with the approved lists, supplier enterprises must accept the customers' orders for delivery of products on the list (assortment) to them within the amount prescribed in the planning acts for product delivery. The parties can provide in the contracts for the delivery of products according to a product list (assortment) that is not included on the list.

9. The territorial bodies of the USSR Gossnab system must take steps to increase the level of deliveries and of the providing of services to customers on the basis of contracts for organizing logistics, to strengthen the guarantees for their integrated and uninterrupted supply with the material resources required for the fulfillment of production and construction plans, and to expand the volume and types of services being provided to customers. They must conclude such contracts with all the main enterprises and organizations that are shifting to the new management methods in accordance with Decree No 669 of the CPSU Central Committee and the USSR Council of Ministers dated 12 July 1985.

They must improve the organization of supplying customers, with whom they have not concluded long-term contracts, on the basis of orders which have been submitted by them to the territorial bodies within the USSR Gossnab system (under the warehouse form of supply) and which have been formulated in the procedure that has been prescribed by the "Statute on Production and Technical Product Deliveries." The orders must clearly define the necessary delivery conditions: quantity, assortment, delivery periods, etc.

When necessary, the parties can provide in the contracts (agreements) for the issuing to consumers of products from the enterprises, which are subordinate to the territorial bodies in accordance with deliveries based on consumer requirements. In establishing such a procedure, it is necessary to be guided by the appropriate USSR Gossnab instructions, keeping in mind that the customers should be guaranteed the receipt of the required products in the periods required by them in these cases.

10. The USSR Gossnab main administrations for delivering complete sets of equipment and the complete sets of equipment organizations of the ministries and departments must make more active use of contracts to insure the complete delivery of equipment and other items to the construction and reconstruction enterprises and improve their quality and specifications. When approving the specifications, which determine the completeness of the delivery, the amount of controlled factory assembly, and other conditions for delivering equipment, for the appropriate types of equipment in the manner prescribed by Decree No 669 of the CPSU Central Committee and the USSR Council of Ministers dated 12 July 1985, it is necessary to insure strict compliance with their requirements. The mentioned specifications should be the main document for suppliers in their compiling and development of production programs.

When defining in contracts delivery periods and other conditions for delivering equipment, it is necessary to proceed from the need to introduce it in a timely fashion by the beginning of the installing (mounting)period, to shorten the periods for putting it into operation, and to lessen stocks of uninstalled equipment.

11. Ministries, departments, enterprises, and organizations must take additional steps to expand the progressive forms and methods for fulfilling commitments with respect to deliveries, the further expansion of deliveries of freight in containers and in packaged form, a decrease in the material and labor expenditures connected with moving products from the manufacturer to the consumer, the insuring of the safe-keeping of the products, and the maximum decrease of losses in material resources. Questions concerning the expansion of containerized and packaged cargo shipments should be provided for in the concluded contracts.

12. Ministries, departments and USSR Gossnab bodies must:

Develop and implement measures that insure the timely conclusion of economic contracts for the 12th Five-Year Plan and the strengthening of their role in

raising the effectiveness of economic activity and in carrying out the national economic tasks which have been outlined for this five-year plan; proceed from the need to combine the interests of enterprise and organization collectives with general state interests; strengthen control over the legality of concluded contracts;

Insure the appropriate accounting of the concluded contracts by the enterprises and organizations, which are subordinate to them, and the timely submission of reports concerning the concluded contracts in the prescribed manner according to the 1-contract and 1-contract (supply) forms that have been approved by the USSR Central Statistical Administration. They must systematically analyze the data on the progress in concluding contracts and take timely steps to eliminate the shortcomings that are revealed in this work;

Develop and implement measures that insure the accurate and timely fulfillment of product delivery quotas and commitments by the enterprises and organizations and the unwavering application of responsibility measures for violations of delivery discipline in accordance with those prescribed by law.

13. The state boards of arbitration and ministry and department boards of arbitration must:

When resolving disputes that arise during the conclusion of economic contracts for the 12th Five-Year Plan, contribute in every way possible to the effective use of economic contracts in order to more fully satisfy the requirements of the national economy, improve the quality of produced products, and accelerate the introduction of the accomplishments of scientific and technical progress into production;

Insure the uniform and accurate application of laws and defend the rights and legal interests of enterprises and organizations;

Intensify the struggle against cases of violations of the prescribed periods for concluding contracts and of deviations from the formation of contract relationships; institute proceedings in such cases on their own initiative; initiate property-type measures, which are provided for by law, against enterprises and organizations that have committed the above-mentioned violations;

Provide a highly-principled evaluation of the actions of enterprise and supplier directors, which are aimed at decreasing the amounts of items subject to delivery and at shifting to the detriment of the consumers' interests delivery periods contrary to the stipulated planning quotas;

When cases of the untimely issuance of planning acts, which serve as the basis for concluding contracts, are revealed, inform the appropriate higher bodies about this in order that urgent steps can be taken to eliminate them and make the guilty persons personally responsible; react sharply to cases where product production plans, which have not been balanced with logistics support, are passed to supplier enterprises and where orders (allocations)

are issued without a consideration for the established minimum dispatch norms and other violations of delivery planning procedures. When resolving disputes, they should disregard the corrections which have been made in the product production and delivery plans in the direction of decreasing them by the ministries and departments in violation of the established procedure and must inform the higher bodies of the boards of arbitration about these cases so that the appropriate steps can be taken;

Carefully and completely analyze the content of concluded contracts and their compliance with the requirements of existing legislation and planning quotas; identify ineffective terms in economic contracts which contradict legislation or which are based on state administration acts that do not correspond to the requirements of legislation as well as those aimed at limiting the responsibility of the parties for the non-fulfillment or inappropriate fulfillment of contract commitments; when necessary, see to the inclusion of additional terms, which are aimed at increasing product quality and accelerating the introduction of the accomplishments of scientific and technical progress, into the contract;

Systematically analyse and sum up the material in disputes that arise during the conclusion of economic contracts; when violations and shortcomings in contract work are revealed, inform the ministries, departments, economic directors, and -- in the appropriate cases -- party and Soviet bodies about them; make concrete proposals to eliminate such violations and shortcomings and pose the question of making the guilty officials responsible as prescribed by law and punish them for the loss caused;

With ministries, state committees and departments, develop and implement effective measures aimed at improving the work of concluding economic contracts and at increasing the role of the contract in the national economy.

14. The union republic gossnabs and the main territorial administrations of the USSR Gossnab -- together with State Board of Arbitration bodies -- must hold meetings during September-October 1985, in which enterprises and organizations will participate, on the conclusion of economic contracts for the delivery of production and technical products during the 12th Five-Year Plan. During them, practical questions concerning the organization of this work must be examined based on the present methodological instructions.

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REGIONAL DEVELOPMENT

ACADEMICS, SCIENTISTS AID SIBERIAN DEVELOPMENT STRATEGY

Siberia: Strategy of Acceleration

Moscow IZVESTIYA in Russian 19 Jul 85 p 2

[Article by V. Yelmakov and N. Zheleznov (Novosibirsk)]

[Text] The scope and rates of assimilation of the wealth of Siberia are closely related to the advancement of Soviet science. The party's high evaluation of the labor of scientists places special responsibility on them for solving problems that are vitally important to the country. The main one of these today is acceleration of scientific and technical progress. The all-union scientific conference held in the Novosibirsk Akademgorodok was devoted to this key issue in the intensification of the economy.

Eminent scientists of the country, leading secretaries of CPSU kraykoms and obkoms, managers of ministries and departments, and officials of the CPSU Central Committee are participating in the large scientific forum which is discussing paths of development of the Siberian region under the 12th Five Year Plan and developing a prediction of its economic and social image on the eve of the 21st century.

Speaking today at the first plenary session was a member of the Politburo of the CPSU Central Committee, the chairman of the RSFSR Council of Ministers, V. I. Vorotnikov. He expressed confidence that this representative meeting of scientists and leaders of union and republic ministries and departments, party and soviet workers would end with the adoption of many useful recommendations --both for science and for production. There is no doubt that this conference, which has taken place in many cities of Siberia, will be a point of departure for solving many important problems which are facing us on the threshold of the 27th CPSU Congress and the more distant future.

The speaker went on to say that the party Central Committee is setting the task of raising the growth rates of the economy in forthcoming years, fundamentally increasing labor productivity, radically improving product quality and providing for a considerable savings on resources. The author said that he assumes that everyone would understand well the political, economic and social significance of this task and the degree to which it is conditioned both by internal and external factors.

A pivotal issue in intensification of the economy is acceleration of scientific and technical progress. The candid and principled discussion at the July conference in the CPSU Central Committee helped to earmark ways of solving this problem. Reaching the goals set at the conference and large-scale utilization of the achievements of scientific and technical progress should become a partywide, nationwide matter.

Naturally, Soviet scientists should participate most actively in this nationwide campaign for high effectiveness of our economy. If one is to speak about Siberian science, its role in light of modern requirements should be a special one: we have a right to link the prospects for the country's further progress and acceleration of the rates of its economic and social development to the advancement of this important region.

In the great diversity of problems--economic, social and ecological--that are being solved by Siberian scientists there are, of course, the most important ones. The main one of these is the fuel and energy problem. The state of affairs of the development of the fuel and energy complex of Siberia, especially in the petroleum industry, has become considerably more complicated recently because of delays in the start-up of discovered deposits, the imperfection of the technology of extraction, and the poor development of the construction base, energy and transportation facilities, and objects of the social infrastructure. It is necessary to concentrate the efforts of the Siberian Branch of the USSR Academy of Sciences, VASKhNIL, the Academy of Medical Sciences and branch and VUZ sciences on solving these important problems related to accelerated development of the Western Siberian petroleum and gas complex. It is also necessary to reequip on the basis of new scientific technologies enterprises of the coal industry in the Kuzbass and the Kansk-Achinsk basin. One cannot but be concerned about the fact that Siberia, which has the richest energy resources, for a long time has been experiencing a shortage of electric energy. This, of course, is a temporary phenomenon, but it is impeding the development in the region of energy-intensive productions which are necessary to the economy.

The speaker emphasized that the concept of the long-term development of the country's national economy envisions further increasing the role of the fuel and energy complex of Siberia. By the end of the century approximately 70 percent of the petroleum and gas and more than half of the coal should be extracted here, and no less than 18-20 percent of all the electric energy in the country should be produced here. In this connection it becomes a primary task of statewide significance in all ways to search for ways of economizing on funds when extracting, transporting, processing and utilizing fuel and energy resources. The most obvious and efficient of them is to reduce losses, which are still great in petroleum industries and in the extraction of gas as well as at coal enterprises and enriching factories. Under these conditions more extensive utilization of resource-saving technologies acquires primary significance.

Work is already being done in this area within the framework of the program "Siberia," but it must be stepped up. As was emphasized at the June conference in the CPSU Central Committee, savings on resources should be one

of the main tendencies of our investment policy. Solving the fuel-energy and resource problems is closely related to prospecting and discovering new supplies of natural resources as well as expanding geological prospecting work. And here it is important to determine correctly the priority areas for capital investments. Geologists think that in the future most of the funds should be used for searching and prospecting for petroleum, and above all large deposits of it. We are practically still just beginning to investigate the potential resources of petroleum and gas in the eastern regions of Siberia. The proximity of the location of these deposits to the Baykal-Amur Mainline is an important factor in favor of accelerated creation here of a new unionwide base for the extraction of petroleum and gas. There are also high prospects here for such resources as hydrocarbons on the shelf of the Arctic and Far Eastern seas. Geologists are faced with the task of providing for the necessary rates of development of extraction of nonferrous metals, bauxites, diamonds, gold. tin, wolfram, molybdenum and other nonferrous and noble metals and minerals. Experience shows that geological prospectors will not be able to do without intensive enlistment of the scientific potential of the Siberian Branch of the Academy of Sciences.

When determining the overall strategy for technical progress in Siberia our scientific subdivisions are called upon to comprehensively take into account the peculiarities of the region, as a result of which there is a sharp increase in the cost of equipment and the capital-intensiveness of construction here. This specific feature of Siberia in the development of machine building--its scale and prospects both in the sphere of technology and in the problem of labor resources--is still not taken into account by our planners, technologists and designers. They must not forget that when creating highly productive technical equipment we are exacerbating the problem of labor resources which is critical in Siberia in any event. Intensive assimilation of the natural resources of Siberia is inseparably linked to the organization of the production of technical equipment to be used in the North.

V. I. Vorotnikov went on to emphasize that harmonious development of the Siberian region requires, in addition to constant attention to the branches which determine the specialization of the economic regions, constant concern for all other spheres, both industrial and social. We are speaking primarily about creating a modern infrastructure--systems of energy supply, and transportation and communications facilities. In this connection the speaker discussed in detail questions of reliably supplying the population of this region with foodstuffs, mainly as a result of local production. It is possible to solve this problem only through intensification of agriculture and increased effectiveness of all of its branches on the basis of scientific and technical progress. And this means that scientists of Siberia should expand the front of the creation of highly productive technologies in field crop raising and animal husbandry, and introduce scientifically substantiated recommendations for improving the management mechanism in the system of the agroindustrial complex.

The current stage in the development of Siberia requires a principally new approach to the protection and utilization of its natural resources. These resources are indeed immense, but the concern for them should be correspondingly great. Unfortunately, up to this point the poetic definition

of Siberia as a "region of invaluable wealth" acts magically on our economic leaders. The system of the utilization of nature here is developing mainly extensively, with an increased "wastefulness" in the assimilation, extraction, processing and consumption of natural resources and materials.

All this shows that the main task in the area of the protection of nature is to increase the degree of utilization of natural substances that have been brought into economic circulation. A cardinal solution to this problem can be seen in the formation of a regional waste-free production through coordinating enterprises with various wastes into ecological industrial complexes. Siberian scientists must work hard on this. This is especially important in the northern regions where nature is extremely vulnerable and the natural restoration of ecological systems takes place very slowly.

Discussing next the implementation of the social program for the development of Siberia, the speaker emphasized that the party line toward carrying out balanced economic and social development of our society is of special significance for Siberia. With all the scale of positive changes in the conditions of the life of the Siberians, the social sphere of this zone is still developing more slowly than the production sphere, which in the final analysis causes harm to the economy as well.

Under the specific conditions of this region, where each step forward, as we know, requires more considerable efforts than it does in other regions of the country, there is a crucial question of the development of advanced concepts of its cultural development. An important aspect of the program for social development of Siberia is improvement of the health protection for the people. Briefly, it is necessary to take full advantage of the experience in social construction that has already been accumulated in the country and has proved the effectiveness of the target-program approach to solving large-scale regional problems. Thus, for example, the utilization of the target-program approach in solving the problems of the BAM made it possible in relatively short periods of time to construct a unique railroad mainline and to begin to assimilate the natural resources in the zone adjacent to it.

Having gone on to discuss problems of forming the scientific stockpile for such large state programs, the speaker noted that the contribution of Siberian scientists to the development of Soviet and world science was weighty and multifaceted. Their achievements are well-known in the area of fundamental research, which was the basis of the large applied work and principally new technological decisions. Siberian researchers have been pioneers of many effective forms of bringing science and practice closer together. But today the country is expecting from Siberian scientists a new step forward along the path of a "monolithic alliance" of science and production, a need which was discussed by V. I. Lenin. The party today considers it necessary to strengthen the testing-experimental and planning design base of science, and to improve the organizational-economic forms of integration of science, technology and production. Siberia already has experience in this and it must be strengthened in every way.

V. I. Borotnikov said in conclusion that our party and government values highly the labor of Soviet scientists. Evidence of this is the June

conference on questions of scientific and technical progress and its conclusions concerning the high calling of people of science. He wished to express his confidence that scientists of the Siberian Branch of the Academy of Sciences in response to this concern would multiply their efforts in the matter of working on the crucial problems of the development of productive forces in Siberia and in all of our country.

Participants in the conference also heard reports and statements from the president of the USSR Academy of Sciences, Academician A. P. Aleksandrov, the chairman of the Siberian Branch of the Academy of Sciences, V. A. Koptyug, managers of ministries and departments, and representatives of krays, oblasts and autonomous republics in Siberia. The speakers sketched a panorama of the large-scale deeds which will have to be accomplished by workers, peasants and the intelligentsia of Siberia. They noted that in the new stage of development of the area it will be necessary to maximally utilize the accumulated scientific stockpile, to use creative thought boldly, and to create personal responsibility for the most rapid possible advancement of the country's economy, which means also steadily improving the well-being of the Soviet people.

The scientific conference will continue its work on 19 July.

Round-Table Discussion in Novosibirsk

Moscow SOVETSKAYA ROSSIYA in Russian 14 Aug 85 p 3

[Discussion led by L. Lvov and V. Prokhorov]

[Text] When the first materials on the comprehensive program entitled "Siberia" were published in the press, including in SOVETSKAYA ROSSIYA, our readers were immediately interested in it. They asked: What is the agrarian part of this program, what does it reflect and, the main thing, how is it being carried out and what steps of science are already producing results and are they energetic enough? Something has already been done in the 2 years since it was considered in the USSR State Committee for Science and Technology. Is everything going as was intended?

SOVETSKAYA ROSSIYA asked scientists of the Siberian Branch of VASKhNIL to meet with journalists at the "round table" and answer some questions. Thus the meeting was held. Participating in it were: the chairman of the Presidium of the Siberian Branch of VASKhNIL, Academician P. L. Goncharov; his first deputy, a corresponding member of VASKhNIL, N. V. Krasnoshchekov and the deputy Yu. A. Novoselov; directors of scientific research institutes V. V. Lazovskiy, A. A. Vershinin and V. I. Kiryushin; the corresponding member of VASKhNIL, M. D. Chamukha; doctor of veterinary sciences I. I. Guslavskiy; and deputy directors of scientific research institutes V. F. Kostornoy and V. V. Alt.

Even before the beginning of the round-table discussion P. L. Goncharov and N. V. Krasnoshchekov emphasized the great significance of the "Siberia" program. It includes scientific research and the introduction of developments for comprehensive utilization of the rich natural resources and the

development of the productive forces of this extremely large region. The main goal of the program is fundamental scientific substantiation of effective paths of socioeconomic development for Siberia in the interests of the entire national economic complex of the country and active assistance to scientific and technical progress in the region.

Scientists also have precise calculations of the expected economic effect. Thus, for example, from obtaining additional agricultural products as a result of new strains of plants and breeds of animals it should amount to 3.5 billion rubles, and from efficient utilization of plant, forest and other natural resources--5.4 billion rubles. Every ruble invested in the "Siberia" program could produce no less than 20 rubles of profit.

But these are calculations. Of course they are realistic and scientifically substantiated. But in order to achieve the necessary effect it is necessary to do a lot of persistent work. Everyone must. This was the topic of the detailed discussion at the round table.

Continuing the Search

Goncharov: The tasks of accelerating scientific and technical progress have their own peculiarities. All of them reflect the requirement of the comprehensive approach to the solution of problems. The "Siberia" program or, as it is now called, Superprogram, fully meets these requirements.

At the June conference in the CPSU Central Committee it was emphasized that the leading line of the struggle for acceleration of scientific and technical progress in the national economy passes through science. And we understand all of the responsibility that is placed on us scientists.

Siberia is the largest region of our country, for it is especially necessary for science to have serious influence in all branches, in all areas--in the utilization of raw material, labor and land resources, and the development of energy engineering and a production base. And there is a great diversity of natural and climatic conditions. Here it is not a zone, but a multitude of subzones which requires special solutions.

For the agrarian complex of Siberia and the Far East we have developed 11 target programs which are intended for scientific support for the production of foodstuffs and programs for individual kinds of products such as grain, feed, potatoes, vegetables, meat, milk and others. In order to conduct the research effectively, to the greatest advantage, it was necessary to combine the efforts of scientists in various areas. Here, in Novosibirsk, very favorable conditions have been created for carrying out all of our plans. Additionally it should be noted that the work on the program "Siberia" is not beginning from scratch; it is being conducted on a foundation that was laid by research of preceding years.

[Question] Could you name the most significant completed jobs that serve as a good foundation for continuing the research?

[Goncharov] Recently several of our developments were demonstrated before the conference in the CPSU Central Committee on scientific and technical progress and at an exhibition. They included devices for processing feeds, a crusher-pulverizer, and a press chamber for an extruder which processes rape and other oil-bearing crops. A fitting for a vacuum milking machine is interesting. It advantages lie in the fact that in the system of milking it imitates the habits of a calf. As a result all of the milk is removed and, in the same place, cases of diseases of the cows' udders are reduced sharply. The contribution of selection workers is appreciable. More than 3 million hectares are planted in Omskaya-9 wheat, and almost as much area in Novosibirskaya-67. New strains of various kinds of agricultural crops have been created in Kurgana, Khabarovsk and Blagoveshchensk. Feed problems are being handled not only by the Institute of Feeds, but also by the Scientific Research Institute of Farming, Crop Growing, Mechanization and Electrification of Agriculture and the Economy. In Altay Kray they have reconstructed 1,400 animal husbandry premises, and in Omsk Oblast--1,500. There are several institutes here. Thus comprehensiveness is achieved in close cooperation with scientists.

[Question] There is no doubt that the Siberian Branch of VASKhNIL is making a weighty contribution to the development of the agroindustrial complex. At the same time, as was emphasized at the conference in the CPSU Central Committee on questions of accelerating scientific and technical progress, we can and should obtain from scientific research an incomparable greater effect. It is necessary to look at the task of science in a new way, taking into account the requirements of the time--a decisive turn in the direction of the needs of production, and production--toward science. What can you say about this requirement, self-critically evaluating the work that has already been done.

[Krasnoshchekov] A good deal can be said here. The cooperation among scientists in solving comprehensive problems indeed produces appreciable results. These can be seen in the Kuzbass, Katek and the BAM. For instance, in the BAM they have developed a technology for producing potatoes that is as close as possible to local conditions. On the eternally frozen soil we obtain 200 quintals per hectare as in the Nonchernozem Zone. And in Magadan certain farms are raising even more, and they are gathering 400 and 500 quintals of vegetables per hectare. But, still, there could be more examples like these. What is holding things up? First I should like to take note of the conservatism of the system of planning science in the country. Excessive centralization, in our opinion, leads to a dispersion of forces, to projects that are too small, and to mistakes. And the coordinators--the head institutes--do not help very much in this. On the contrary, frequently because of their departmental approach there is confusion and disorder, which sometimes gets to the point of being ridiculous. For instance, under the "Siberia" program we have clear-cut directions and goals. Regional research is subordinate to them. But the head institute, sometimes not even taking the Siberians into account, is putting off certain of our topics and setting its own. For example, the hydraulic combine.

[Lazovskiy] Yes, we have had many troubles here as well. We agreed to test this combine. It was a good thing to do. But we learned later that it does not exist yet. We say: revise the assignment. They answer: we cannot, adjustments are prohibited. What! A mistake has been made and instead of correcting it they refer to directive instructions. A couple of days later the scientific secretary came and we asked: "Have you withdrawn the subject?" No, we must make a report on it. Imagine how absurd this is--the combine does not exist, industry has not produced it, but we must make a report on its testing.

[Krasnoshchekov] And the story about the Cygus? The head institutes know little about the peculiarities of the work of Siberian science, and thus they sometimes include for research subjects that are inappropriate here. For example, someone included in the subject matter for Norilsk research on the habitat of the Saigas. But they do not live in these harsh conditions. So what were we supposed to do, ship some up to the North in order to conduct our research according to the schedule? The colleagues smile and agree: yes, it is stupid. But the subjects will nonetheless go through statistical reports.

[Lazovskiy] The primary reason here, in my opinion, is this: the scenes are not coordinated with industry or production. It is written that we must increase the output of products by a particular percentage--and that is fine. But the details are not given. And they do not have time for this in the head institute. Thousands of subjects come together here and these are the same people, and they are not able to "digest" it all. We have written so many places--we have now gotten rid of the Saigas. But the situation could be repeated. It is necessary to have all-around planning--from the idea to the machine or the strain of crops. Unfortunately, we do not have this.

[Goncharov] But you are still lucky: You do not have many coordinators. Others who are working on a comprehensive subject have a multitude of them--for mechanization, electrification, soil fertility, economics, selection, genetics....

[Lazovskiy] As I recall Kiryushin has 16 coordinators....

[Kiryushin] Yes, and for all of them we have to prepare reports and send them in on time.

[Krasnoshchekov] Certain assignments go beyond what we should do. And when it comes right down to it science has already produced so many valuable developments that if they could be introduced they would last for 5-10 years. Part of our collective should concentrate on introduction and the other part, reduced by half, should be allowed to go forward, to aim for the future, to those very technologies which are to increase the productivity of each hectare of land. And we know how this work should be done. Unfortunately, sometimes our hands and legs are tied. But here is a question. In the country there are 17 institutes for mechanization of agriculture. Sixteen of them are in the European part, and from the Urals to Kamchatka there is only ours. Well, tell me, is it possible for us alone to coordinate serious work on such an

immense territory. There in some places the institutes argue among themselves about including a subject, but for us it is the reverse. And there is no redistribution of scientific forces. Such are the paradoxes.

[Question] Perhaps the scientists are not persistent enough when it is necessary to defend their trusted ideas and reach a point where the final developments are used in production and do not lie in the archives.

There Is the Opinion....

[Kiryushin] It is possible. But I should like to think about this for a while. On all of the experimental farms of the institutes the productivity is considerably higher than on other kolkhozes and sovkhozes. Frequently it is twice as high. It is necessary for this to be the case throughout all of Siberia. I think that if SOVETSKAYA ROSSIYA were to help to discuss and solve one problem, we could take a large step forward in the production of grain and also other products. What is the essence of the problem? There is still the opinion that in Siberia the return from fertilizers is low. This erroneous idea has long been used as a basis for distributing fertilizers throughout the regions. And they do not wish to revise it at all. Today on an average per hectare of arable land in the country there should be 114 kilograms of mineral fertilizers (active substance). Actually in Siberia, taking into account additional resources, they deliver one-third of this amount. Even though the Siberian farmers have shown that they can obtain 30-40 and even 45 quintals of grain per hectare.

What does this view on the part of economists and planners lead to for Siberian farming? We cannot properly use the fallow fields in which we are accumulating nitrogen and moisture. But if we do not apply phosphorus we are utilizing the potential of fertility by owing half. Thus from the 5 million hectares of existing fallow fields we are failing to gather 3 million tons of grain. Rather, we are losing through the most inefficient method. At the same time, in a number of regions the provision of mineral fertilizers reaches 300 and more kilograms of active substance. The return here does not exceed 3-4 kilograms of grain per 1 kilogram of fertilizer. Our return is twice this much. Calculations show that if in Siberia we were to apply 130 kilograms of active substance per hectare, throughout the entire region the productivity of grain crops could be doubled and we could gather 22 quintals from the entire area instead of 12 as is now the case.

[Question] In your opinion, which local resources could be used to increase the fertility of the fields?

[Kiryushin] In Siberia there are large areas of solonets land. Applying gypsum to them produces a good effect--an additional yield of 5 quintals of grain from each hectare. But not enough gypsum is delivered. It is now being shipped in from the Moscow area. This is irresponsible and extravagant to say the very least. How do we solve this problem? We have suggested our variants, worked them out, and tested them. In Altay Kray there is a group of Kulunda lakes. In particular, the railroad leads up to one of them. The lake is drying out and it has a 2-meter layer of excellently decomposed gypsum. We conducted an analysis and checked the effectiveness on the fields. It is

excellent gypsum. It would seem that there is no problem--let us just ship it. But again it is necessary to "push through" the issue to someone. The ministry for producing fertilizers is not willing to take on this matter. It is not advantageous for it. The builders tried to take over the project. But they abandoned it.

Further. In the western part of the region at various enterprises production wastes have accumulated in the dumps--actually mountains of them. These are also excellent for improving the soil because they contain a multitude of useful substances for solonets soil. But it is necessary to gather them.

[Krasnoshchekov] What Valeriy Ivanovich Kiryushin was discussing is very crucial. After all, we are introducing zonal scientifically substantiated farming systems everywhere. And we cannot get along without augmenting the fertilizer resources. We consider the structure of the arable land in Siberia and the Far East to be optimal--18 million hectares. Our program is directed toward doubling the yield of grain and obtaining 39 millions tons from this area.

[Vershinin] In Siberia there is a possibility of increasing the production not only of grain, but also potatoes, early vegetables and feed. As a result of land reclamation. Here irrigation is based on the old irrigation installations and therefore a good deal of manual labor is used.

[Kostornoy] Of the natural land in Siberia the most fertile and promising is the lowlands. Here one can increase the production of feeds. There are scientific developments. What is holding up their introduction? The low level of mechanization. It is difficult to harvest fields in years with excess moisture. Scientists have managed to do something about this. They have created floating feed plants. These are being used in Tomsk and Tyumen oblasts and in Krasnoyarsk Kray. Vitamin meal is obtained. This, of course, is a good solution. But we cannot harvest all the feeds by this method. It is necessary to have tractors with wide wheels, floating hay cutters and other machines. Another aspect of the matter is that the meadows are in need of surface improvement. Here again it is a matter of fertilizers.

[Question] There will be a shortage of them for some time to come. But what can be done immediately? A good deal here depends also on the structure of the feeds and on the economic direction of feed production.

[Vershinin] Up to 40 percent of the feed on dairy farms is grain, and in hog raising--up to 90 percent. This, of course, is a high percentage. Here it is necessary to take a look at the quality of the forage as well. It should be taken into account in terms of the prepared feeds, and not just the quantity. For it frequently happens that there are sufficient supplies of feed units, but the productivity of the livestock is not increasing.

[Goncharov] The structure of the feed field is changing, this is true. But the improvement is being delayed with respect to certain crops because of the seeds. Here it is necessary to improve the system of procurements as well.

[Question] Incidentally, this question arose about 5 years ago. The feed-growing farms had to sell excellent seeds as regular grain. Has the situation been rectified?

[Goncharov] Within the framework of the plan it has been rectified. But if the experimental production farms have above-plan seeds and wish to sell them, a problem arises here. The local agencies insist that these seeds be released as commercial grain so that they can be included in the report. After all, with a new strain and elite seeds it is possible to increase productivity by 25 percent. And so for the sake of an immediate advantage they forgo advantages which could later turn into thousands of tons of grain.

[Vershinin] It should be noted that another problem here is the differences in the plans for the production and procurements of grain. When introducing a zonal scientifically substantiated system of farming the kolkhozes and sovkhozes have different results for different crops. But the planning agencies continue to give them assignments without taking these changes into account.

"Extreme Condition"

This is more than anything a lack of desire to analyze in depth the processes that are taking place and to think about them. Take, for example, such a large issue as technical support for Siberian farms. How reliable is the program for the production and development of the region's productive forces? Here are the figures for tractors. And the increase in the delivery of these covers only those that have been removed, but we say that this is still good.

Another thing is bad: "levelers" for vehicles--trailer implements--are provided by only 17 percent of the necessary amount. But even this will "work itself out" since the reliability and durability of trailer implements is low. There are many factors and examples here, and I shall not mention them all. I shall discuss something else. Mathematicians have the term "extreme condition." We have already discussed here the policy for distributing fertilizers. Imagine that we were given as much of them as we need for intensive crop growing. Then the farms would not be ready to receive it all--load it, transport it, store it and apply it properly. So no matter which problem we take, there is no comprehensive approach. The same thing is true in increasing the technical potential. Our extremely large country is conventionally divided into 12 zones with respect to the use of machines. But we know from practice that other countries with territory equal to Novosibirsk Oblast alone are divided into 35 zones. And this is justified. Depending on the conditions, the most various kinds of technical equipment must also be applied.

Of course, it is still difficult for us to have such a large diversity of machines. But we scientists say: let us take that path. Let industry produce the base machines and we here locally, on the basis of these base machines, will create what we need for the zonal system of farming. And these will not be simply sets of equipment, but inserts which replace their working parts. Here is an example. Sibselmash produces the LDG-16 base frame. Let us go and take a look at it on the stand and in the exhibit. It is used 4-5

days a year for loosening stubble. And look how much metal has gone into this. Our institute has developed and offered these kinds of removable equipment, that is, on one machine it is now possible to operate eight working parts, and 15 of them can be installed. And we are now using the frame not for 5 days, but for several months. There is an immense savings of metal. Cost-accounting brigades are very enthusiastic about the innovation.

The supporting bar for ordinary plows which was suggested by the SibIME is of the same class. It has been rated highly by practical workers and is being used successfully for subsoil tilling in the forest steppe zone. Just as a result of this it is possible to increase the grain yield by 1.5 quintals per hectare. This is the only implement that can operate on solonets soil. It is simple to manufacture. Any plant can arrange for its output. We are being assisted by local plants. In Siberia we are already using this plow to cultivate about 2 million hectares. But this is all being done without the participation of the Ministry of Agricultural Machine Building. And yet the development was completed long ago. They say that it is necessary for the bar to undergo state testing. All right, let us test it. But neither the ministry nor the Goskomselkhoztekhnika is getting to work on this. And this has been going on for 10 years now. Only now, after instructions from the CPSU Central Committee, has a paper finally arrived--"Send the agrotechnical substantiation." Although something has now been done, it seems that somebody should be held strictly responsible for all the red tape and the irresponsible attitude toward the innovation. Can we really be expected to accelerate scientific and technical progress with this kind of support?

[Question] Obviously one should approach the organization of production, the utilization of existing technical equipment and the introduction of tested scientific developments with the same high degree of demandingness.

[Krasnoshchekov] Yes, there are quite a few gaps here too. Take a look at these figures: now during a 9-hour shift combines operate for only 4.9 hours. The rest of the time they stand idle mainly because of organizational confusion.

[Lazovskiy] Science has suggested a solution for a number of problems. During harvest time the combines frequently stand idle because of a lack of coordination of transportation. We have decided to test and see what would happen if we were to organize in a normal way the labor of the detachment of drivers who are transporting the harvest. We used calculations of the so-called daily cycle schedules. Each of the 20 machines had its own calculation: when it leaves, what route it takes, and to what point. A small computer using a mathematical model prepares all these data and then checks to see how everything is done. If there has been a breakdown somewhere the calculations are immediately adjusted. We have tested this simple procedure on the Cherepanovo Experimental Production Farm and also in Saratov, Vinnitsa, and now we are testing it in Volgograd Oblast. This saves 30 percent of the rolling stock. These computers can be installed on any farm (they are now inexpensive) and they can solve a multitude of problems. But the personnel are psychologically not ready for this. And production is not ready for the utilization of computers either. It is necessary to break down this stubborn toward the utilization of electronic equipment and other technical means.

[Vershinin] Conservatism can also be felt in the organization of procurements. Why during the harvest do we always strive to centrally ship the entire harvest to the most distant granaries. We are using too much transportation. Here, it seems, is a large reserve for us.

During the course of a detailed discussion the scientists at the round table expressed judgments that touch upon radical issues in the implementation of the target program "Siberia" and also concrete suggestions. Here are some of them.

The existing system of coordination of the work of scientists through head institutes is not justifying itself. There is still a departmental approach to conducting research, too many subjects, dispersion of efforts and duplication. The planning of science should be carried out on the basis of regional needs. And this should begin with Siberia, and not from above.

In order to accelerate progress in the production of prepared developments and to bring them to the point of realization, one should take advantage of the experience and scientific principles of Akademgorodok, which has created a "belt of introduction." To do this it is necessary to enlist for solving these problems a number of enterprises of the Ministry of Agricultural Machine Building, the Automotive Tractor Institute (NATI) and subdivisions of designers. The machines are tested locally. All this shortens the path of introduction to one-third.

The existence in Siberia of divisions of three academies creates unique conditions for solving large-scale problems. Therefore we should finance not the department, but science, and allot funds for a particular scientific problem.

The disproportion should be eliminated in the development of agricultural science in the various zones of Siberia and the Far East, which will make it possible to strength interacademic cooperation.

In publishing the material from the round table and the concrete proposals of the scientists the editorial staff of SOVETSKAYA ROSSIYA intends to continue to elucidate the problems touched upon here on the pages of the newspaper. It is intended to show how land and labor resources of Siberia and the Far East are utilized in agriculture, how all branches of the agroindustrial complex interacts with one another, what experience should become widespread, and what hampers solving problems that are included in the "Siberia" program.

The editorial staff invites the readers and everyone who wishes to to participate in the discussion of the problems touched upon by the scientists.

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